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## ESSAY ON THE SUBFAMILY STENOPODINAE OF THE NEW WORLD

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### INTRODUCTION

This treatise is concerned mainly with the Neotropical Stenopodinae but for purpose of comparison I have included the Nearctic genera and species. Up to the present time 17 genera with 50 species have been listed from the above faunal regions. I have added 3 new genera and 28 new species, only two of which occur in the United States. A survey of the known geographical range of the included species demonstrates that this subfamily reaches its maximum development in South America. Only 14 species are here recorded as occurring north of the Mexican border and of these a bare half dozen are found rather uncommonly in the northern states. All of the remainder are Neotropical. The only types I have been able to see were *Rutuba perpugnax* Bueno and *Achillas bicaudatus* Bueno and a paratype of *Seridentus denticulatus* Osborn. For the recognition of the remaining genera and species I have had to depend on the author's original descriptions. I regret that I have not been able to see specimens of *Nitornus lobulatus* Stål, *Podormus granulatus* Stål and either of the described species of *Rhyparoclopius*. I have therefore been forced to omit these in the general discussion but have arranged these genera in the key. Three of Walker's species it has been impossible to recog-

nize as follows: *Ctenotrachelus longicollis*, *Pnirontis filiformis* and *Stenopoda? hyalinipennis*. Also three of Distant's species are unknown to me: *Pnohirmus whymperei*, *Stenopoda scutellata* and *Nitornus fuliginosus*.

Due to the courtesy of the curators of several museums mentioned below and to the kindness of individual collectors I have been able to see a large amount of material. Very fine collections were received from the U. S. National Museum, Cornell University, Museum of Comp. Zool. Harvard University, Carnegie Museum. Smaller collections were studied belonging to the American Mus. of Nat. Hist. and Acad. of Nat. Sciences of Phil. Mr. E. P. Van Duzee, J. R. de la Torre Bueno and Dr. S. B. Fracker helped me by the loan of certain species from their collections. My own collection also contributed some records.

The most reliable character for differentiating the Stenopodinae is found in the venation of the hemielytra, which at the apical margin of the corium are provided with a large cell (usually pentagonal) from the posterior margin of which extend two elongate cells of the membrane, the outer one of which extends further caudad. The geniculate character of the antennae with the basal segment more or less elongate and incrassate is also an important subfamily character. For generic diagnostic characters I have depended rather freely upon those employed by Stål modifying them somewhat in order to render them more definite. It will be noticed that I have not had recourse to the character of the genitalia as for the most part this was not necessary in order to differentiate the species.

## FAMILY REDUVIIDAE

### SUB-FAMILY STENOPODINAE

Characters:—*Body* depressed. *Corium* furnished with a large, usually 5-angled discal cell from the apex of which extend posteriorly two elongated inclosed membrane cells, the outer one of which extends further caudad. *Head* porrect and most commonly with the *jugae* more or less produced between the antenniferous tubercles, sometimes these are less obvious and with the *tylus* more produced. *Antennae* geniculate at base of second segment, with the more or less incrassate and elongated basal segment porrect (in cabinet specimens) the remaining segments more slender. *Prosternal* spines commonly porrectly, more or less acutely produced.



## KEY TO GENERA OF STENOPODINAE

1. Head ventro-laterally behind eyes armed with ramose or forked spines ..... 2  
 Head behind eyes unarmed or provided with simple setigerous spines ..... 7
2. Basal segment of antenna produced in a spine or apical process beyond the insertion of second segment; devoid of a spongy fossa at apex of anterior tibia; these usually furnished with spines more or less evident ..... 3  
 Basal segment of antenna not produced beyond the insertion of second segment; anterior tibia always unarmed ..... 4
3. Antenniferous tubercles armed with a distinct nearly erect spine; lateral angles of connexival segments spinously produced; large species ..... *Rutuba* Bueno  
 Antenniferous tubercles unarmed or provided with minute spines; lateral angles of connexival segments not produced; small species ..... *Pnirontis* Stål
4. Anterior femora scarcely incrassate, unarmed below; apices of genae not anteriorly produced in a spine or process; basal segment of rostrum almost doubly longer than second and third united; posterior femora elongate ..... *Pygolampis* Germar  
 Anterior femora armed with spines below; incrassate (except in *Zilobus*) ..... 5
5. Genae anteriorly produced in a porrect spine at base of rostrum; basal segment of rostrum as long as or but little longer than the last two segments united; head but little if any longer than pronotum; connexivum not expanded; eyes not strongly protruding ..... *Gnathobledda* Stål  
 Genae not anteriorly produced in a porrect process at base of rostrum; basal segment of rostrum shorter than the last two united; ocelli strongly elevated; connexivum expanded, somewhat angulate or lobate; eyes strongly protruding ..... 6
6. Head shorter than pronotum; connexival margin of fourth abdominal segment angularly expanded (male); anterior femora strongly incrassate ..... *Kodormus* n. gen.  
 Head longer than pronotum; connexival margin with segments 1 to 6 angularly lobate (male); anterior femora slender; corium with two discal cells ..... *Zilobus* n. gen.
7. Head ventro-laterally behind eyes unarmed with setigerous spines ..... 8  
 Head behind eyes armed with distinct, simple setigerous spines (rarely so in *Apronius*) ..... 10

8. Jugae extended in two nearly parallel porrect processes well beyond apices of antenniferous tubercles; anterior femora scarcely incrassate ..... *Diaditus* Stål  
Jugae short, extending but little if any beyond apices of antenniferous tubercles; anterior femora incrassate ..... 9
9. Body narrow; connexival margins entire not expanded; basal segment of antenna long; apex of membrane acuminate. .... *Pnohirmus* Stål  
Body broad; connexival margins expanded, lobate; basal segment of antenna short; apex of membrane not acuminate. .... *Rhyparoclopius* Stål
10. Pronotum nearly or quite twice as long as head; eyes set about midway on head; ocelli strongly elevated; anterior tibia provided with a spongy fossa at apex ..... 11  
Pronotum never twice as long as head, most often but little longer ..... 12
11. Angles of connexival segments ending in spinous foliaceous lobes; apex of membrane rounded; pronotum not quite twice as long as head; angles of pronotum and legs spinose or tuberculate ..... *Achillas* Bueno  
Angles of connexival segments entire or nearly so; apex of membrane usually acuminate; pronotum usually twice or nearly twice as long as head ..... *Ctenotrachelus* Stål
12. Gular region of head with two or more pairs of setigerous tubercles or spines ..... 13  
Gular region of head devoid of distinct setigerous spines ..... 14
13. Segments of connexival margin angularly lobate; anterior angles of pronotum long spinose; disk of anterior lobe of pronotum with two erect spines or tubercles. .... *Ocrioessa* Bergroth  
Connexival margin of abdomen entire; anterior angles of pronotum not spinose; disk of anterior lobe of pronotum unarmed; post-ocular margin of head rarely armed with simple spines ..... *Apronius* Stål
14. Head, pronotum and legs provided with granules or spines or densely setose ..... 15  
Head, pronotum and legs devoid of granules and spines, the latter sparsely setose ..... 18
15. Connexival margin of abdomen expanded, wider than hemielytra; basal segment of antenna much shorter than head ..... 16  
Connexival margin of abdomen scarcely expanded but little if any wider than hemielytra; basal segment of antenna longer than head; anterior femora long, lightly incrassate ..... 17

16. First segment of rostrum nearly equal to third and somewhat shorter than second; anterior angles of pronotum devoid of a spine; humeral angles rounded, scarcely prominent; expanded connexival margin entire; anterior femora rather strongly incrassate ..... *Podormus* Stål

First segment of rostrum much longer than third and somewhat longer than second; anterior angles of pronotum armed with a spine; humeral angles prominently acute; segments of connexival margin expanded into dentiform acute lobes; anterior femora lightly incrassate.

*Nitornus* Stål

17. Anterior tibia with an elongate spongy fossa at apex; post-ocular margins of head nearly parallel sided, abruptly contracted before collum ..... *Stenopoda* Laporte

Anterior tibia devoid of spongy fossa at apex; post-ocular margins not parallel sided, gently converging behind eyes to collum; disk of anterior lobe of pronotum and lateral margins tuberculate ..... *Stenopodessa* n. gen.

18. Pronotum evidently wider than long; apical angles of sixth abdominal segment ending in two angular flaring lobes (male); scutellum armed with an apical nearly erect spine; anterior femora somewhat incrassate; anterior tibia provided with a short spongy fossa at apex; posterior femora short, apices not nearly reaching to apex of abdomen; basal segment of rostrum longer than second ..... *Seridentus* Osborn

Pronotum almost equally wide as long; apical angles of sixth abdominal segment not produced, rounded; apex of scutellum horizontally produced; anterior tibia devoid of a spongy fossa; posterior femora long, nearly or quite reaching to apex of abdomen ..... 19

19. Anterior femora scarcely incrassate, unarmed beneath; first and second segments of rostrum subequal ..... *Narvesus* Stål

Anterior femora incrassate and spined beneath; first segment of rostrum shorter than second ..... *Oncocephalus* Klug

PNIRONTIS Stål 1859<sup>1</sup>

<sup>1</sup> I have not been able to see the following species: *scutellaris* Stål, *pallescens* Stål, *spinimana* Champ., *stâli* Mayr and *filiformis* Walk.

(Type *scutellaris* Stål)

Basal segment of antennae prolonged in an apical process or spine extending beyond the point of insertion of the second segment. Head armed ventro-laterally behind the

eyes with a few, either simple or ramose, setigerous spines; antenniferous tubercles porrect, well produced beyond median lobe; jugae commonly produced as two porrect processes or spines between the antenniferous tubercles, sometimes the tylus as a single process is more produced and the jugae undeveloped or much less obvious. Genae lamellarly produced. Anterior angles of pronotum with a short porrect process or spine; humeral angles unarmed. Anterior femora slightly incrassate, these and tibiae armed with a series of more or less elongated spines; the latter without spongy fossa at apex. Anterior trochanter most commonly with a single spine. Small or mediocre species.

***Pnirontis subinermis* n. sp.**

Color cinereous; head and pronotum in part clothed with minute silvery hairs; narrow median line of head and longitudinal groove of pronotum lightly infuscated; inner membranous area of corium and membrane itself sordid white flecked with brown spots; apices of clavus and scutellum as well as posterior marginal vein of discal cell infuscated; incisures of connexival segments of abdomen strongly banded with fuscous; venter, at least anteriorly, provided with a few oval fuscous spots on each side.

Head considerably shorter than pronotum; eyes strongly protruding in the male, much less so in the female; preocular and postocular margins equal, the former equal to length of eye; antenniferous tubercles quite short, outwardly armed with a minute apical spine; jugae slender, acute, slightly divaricate apically, extending a little beyond apex of antenniferous tubercles; ocelli rather small, not elevated; genae very acute, extending for at least half their length beyond the apex of antenniferous tubercles; behind eyes armed with about four short, close-set ramose spines. Basal segment of antenna, including apical spine, a little longer than head (in male type); long pilose within, unarmed below. Apex of basal segment of rostrum extended slightly behind eyes. Pronotum about one-fifth longer than wide, the two lobes nearly equal in length; anterior lobe deeply sulcate posteriorly, continued as a gradually widening deep groove on the posterior lobe; spines at anterior angles short; acute prosternal spines extending forward below the head nearly half way to the eyes. Discal cell of corium much over twice as long as wide. Anterior femora and tibiae armed with very short spines or spinules, much shorter than diameter of these segments of legs; femora within provided with four



slightly longer spines and below with a row of fine minute spinules; tibiae before the middle armed with two or three spinules and without any preapical spur or triangular process; anterior trochanters provided with several minute spinules. Lateral margins of sixth abdominal segment gently converging posteriorly and with posterior margin truncate (deformed!). Length 12 mm.

Type: Male; Cabima, Panama, May 17, 1911. Collected by Aug. Busek. (Coll. U. S. N. M.). Paratypes: Male, same date as type, collected May 28, 1911; female, Chapada, Brazil, Nov. Collected by H. H. Smith (Carnegie Museum Acc. No. 2966).

The length of the basal segment of antenna varies in the male for in the paratype this segment is considerably shorter than head. In the female this segment is nearly one third shorter than head and not long pilose within; the eyes are not at all protruding; the antenniferous tubercles furnished with a more obvious spine at apex; fore femora have an inner row of seven small spines and the tibiae with three spines somewhat longer than those of male; lateral margins of the sixth abdominal segment gently converge posteriorly; the genital segment is much narrowed and posteriorly ends in three lobes the middle one of which is slightly incised in the middle. In the male type the sixth abdominal segment is posteriorly truncate; in the paratype this ends in two triangular lobes separated by a deep obtusely angled sinus. Certainly this species and *griseus* which I have described from Bolivia are very closely related and may eventually be found to be the same species. The latter however has the basal segment of antenna spined beneath and the spines of the fore legs are somewhat different.

*Pnirontis languida* Stål.

Head one fourth shorter than pronotum, the latter a little longer than wide. Eyes not globose but somewhat strongly protruding, their diameter evidently greater than one half of the interocular space. Ocelli large, set closer together in the female than in the male. Antenniferous tubercles short, their inner margin less than half the length of an eye. Basal segment of antenna, including very short apical process, in the male, subequal to length of head and three times as long as preocular margin, densely pilose; in the female only twice as long as preocular margin and non-pilose; in both sexes unarmed below. Jugae short, nearly parallel and scarcely extended beyond apices of the antenniferous tubercles, a little less than one-half the length of the



preocular margin of head. Genae often visible from above; seen from the side, subacute at apex and in the male extend one fourth way on basal segment of antenna, in the female nearly half way. Behind eye armed with a single prominent ramose spine followed by a simple spine, with another ramose spine behind this. Anterior femora with an outer row of four rather short spines, spinulose between and an inner row of six shorter spines, those towards base minute. Anterior tibia with only an inner row of rather short spines and with a preapical triangular, compressed process, and no preapical long spur. Corium and connexivum immaculate. Sixth segment of male with margins rather strongly converging posteriorly, with the apices of the two posterior lobes, narrowly, obtusely rounded at apices, the acute sinus between these narrower than a lateral lobe; in the female the first genital segment with the posterior angles very acute, produced to the middle of the last genital segment which has a short acute sinus at apex. Color stramineous-testaceous. Length 13-14 mm.

Records and distribution:—Stål reports this species from Brazil as well as from Carolina, Vera Cruz, Mex.; Cayuga, Guatemala; Panama, and Cayamas, Cuba (U. S. N. M.). My records show that it is less common than *infirmis* from the United States.

***Pnirontis acuminata* n. sp.**

Female. Stramineo-testaceous; head dorsally and laterally very lightly infuscated; a broad fuscous stripe runs from the anterior acetabulum through the meso- and metapleura; a faint longitudinal line in the middle of the pronotum and the apex of the membrane infuscated; incisures of the connexival segments very lightly infuscated. Head and pronotum subequal in length, with the latter one fifth longer than wide. Eyes very little protruding much longer than wide; their diameter about equal to one-half of the interocular space; antenniferous tubercles moderately elongate, a little less than the length of an eye, unspined at apex; jugae stout, subparallel throughout, apices blunt, extending beyond the apex of antenniferous tubercles, much shorter than the preocular margin of the head; genae rather obtuse at apex, well extended beyond the apex of the antenniferous tubercles, posteriorly before the eyes provided with several small setigerous spines; behind eyes armed with about four ramose spines; basal margin of head provided with a row of short tubercles. Basal segment of the antenna, including

apical spine, about one-half as long as the head but little shorter than the preocular margin, unarmed beneath, apical spine stout, acute, nearly as long as the remainder of the segment. Anterior femora provided with two rows of long curved spines, inner row of eight of which the first three are short and an outer row of four spines annulate with fuscous before base. Anterior tibia with only an inner series of three long spines and a triangular preapical process. Hemelytra much shorter than the abdomen, membrane just surpassing the apical margin of the fifth abdominal segment. Lateral margins of the abdomen converging posteriorly from the third segment; the terminal genital segment extending well beyond the acute lateral lobes of the preceding segment, the sinus between the lobes nearly equally wide as one of the lateral lobes, rounded within. Length 18.5 mm.

Type: Female; Santarem, Brazil, Oct. 1919 (Carnegie Museum. Acc. 6543).

In this species the relative length of the basal segment of the antenna and their unspined character as well as the whole general appearance relate it to *languida*.

#### ***Pnirontis inobtrusa* n. sp.**

Color stramineous; sides of head before and above eyes heavily infuscated; behind eyes, median longitudinal stripe on the pronotum, scutellum except basal angles, clavus more or less, inner half of discal cell of corium, membrane except for the elongate pale discal streaks, longitudinal stripe on the meso- and metapleura continued for a short distance on the sides of venter, lightly infuscated; incisures of connexivum immaculate.

Male. Head and pronotum subequal in length with the latter one-fourth longer than wide. Eyes not strongly protruding, dorsally two and one-half times longer than wide, their diameter equal to one-half the width of the interocular space. Antenniferous tubercles moderately elongate, a little less than length of an eye with a very minute spine outwardly before apex. Basal segment of antenna, including apical spine, one third shorter than head and twice as long as preocular margin to apex of antenniferous tubercles; unarmed beneath, very sparsely long pilose; apical spine stout, subacute, nearly one-third as long as the remainder of the segment; two apical processes (jugae) rather long, as long as an eye, extending well beyond apices of antenniferous tubercles, subparallel; the short stylus visible between

these does not reach to their middle point; genae well produced beyond apices of antenniferous tubercles, acute; before eyes armed with several small setigerous spines; behind eyes armed with four or five strong ramose spines. Pronotum subcarinate laterally; anterior lobe strongly, longitudinally sulcate posteriorly. Anterior femora with an outer row of five spines, none longer than diameter of femur, the last one in the series very short; between each of these and between the terminal one and apex are a number of short spinules; an inner series of eight moderately long spines increasing in length towards apex. Anterior tibia with only an inner series of three rather long curved spines and a preapical triangular process. Corium with the discal cell over twice as long as wide. Abdomen with the lateral margins of sixth segment strongly converging posteriorly, ending in two lobes which are lightly rounded at their apices, the sinus between these wide. Length 15 mm.

Type: Male, Prov. del Sara, Bolivia, Dec. 1912. Collected by Steinbach. (Carnegie Museum. Acc. number 5068).

In the series in which the basal segment of the antenna is unarmed this species is closest to *acuminata*. I have suspected that it might possibly be the male of that species but the character of the head, basal segment of antenna, spines of the anterior femora and tibia are so different that I have concluded that it must be distinct.

***PNirontis brevispina* n. sp.**

Female:—Pale stramineous. Head and pronotum in part finely granulose. Head narrow, the lateral margins fairly parallel throughout, equal to pronotum in length; eyes projecting very little, their diameter about half that of interocular space; seen from the side a trifle longer than wide subtruncate posteriorly; transverse sulcation just behind the middle of line of the eyes, posterior to which is a faint median longitudinal sulcation, reaching the base of head; base of head with three small posteriorly directed spines on either side of the middle point. Ocelli small, relatively closer together than commonly, placed closer to the median longitudinal groove than to the eyes. Antenniferous tubercles (inner margin) extremely short and declined, the prominent acute dorsal spine projecting beyond the apex of these. Basal segment of antenna including apical process very short, a little shorter than preocular margin, the apical spine very short and blunt; unarmed beneath and non-pilose.

The jugae minute, declined not reaching apices of antenniferous tubercles; the tylus produced beyond these in a single acute process which extends somewhat beyond the apices of the antenniferous tubercles. Genae somewhat acute, extending to middle point of basal segment of antenna; finely spinulose along lower edge; behind the eyes armed with a crowded series of eight ramose spines of fairly uniform length. Prosternal spines acute, not reach to middle point of postocular region of head; anterior margin of propleura with three or four short porrect spines. Pronotum one-fourth longer than wide; with anterior lobe not quite twice as long as posterior one; anterior angles furnished with a distinct spine; anterior lobe longitudinally sulcate from before the middle point; the surface smooth with a Y shaped line of small granules either side of the median groove, and an abbreviated line posteriorly, midway between this and lateral margin; posterior lobe somewhat wrinkled; posterior margin before base of scutellum straight. Corium immaculate, with the veins conspicuously pale; discal cell over twice as long as wide. Membrane longitudinally streaked with white, its apex reaching middle of sixth abdominal segment. Fore femora rather more slender than commonly, their apices not reaching far on basal segment of antenna, armed with two rows of fuscous banded long spines, the outer row of four, increasing in length apically, the preapical one very long, spinulose between these; the inner row with four somewhat shorter spines and two or three minute spines towards base. Anterior tibia strongly curved, armed with two rows of spines, an outer row of three rather short spines and a long preapical spur and an inner row of three longer spines. Apical angles of the connexival segments of abdomen very obsoletely embrowned, scarcely fasciate. First genital segment posteriorly parallel sided (dorsally), with posterior apical angles produced into two posteriorly directed, rounded lobes which extend slightly behind the posterior margin of the last genital segment which is very small, quadrate and scarcely incised at apex. Length 14 mm.

Type: Female; Cabima, Panama, May 19, 1911. Collected by August Busek (U. S. N. M.).

This species is considerably longer but most closely related to *brimleyi* in the character of the head and its appendages but may be distinguished from that species by the relatively longer and more decided separation of the two lobes of the pronotum, relatively longer discal cell of the corium and the different character of the genital segment of the females, as well as the immaculate corium.



*Pnirontis brimleyi* Blatchley 1926.

Described from a single male collected at Raleigh, North Carolina. A single female is in the collection of the U. S. N. M. from Columbus, Texas, from which the following characters are drawn. This species may be readily distinguished from all of the other known species from the U. S. by the following characters:

The extremely short divaricate lobes of the jugae, with the stout tylus somewhat produced as a single process before these; the short depressed antenniferous tubercles, surmounted by a stout obtuse spine; the short thick basal segment of the antenna, shorter than the pre-ocular margin of head and with a short, thick obtuse process at apex, unarmed below. Genae wide, obtuse extending nearly half way on the basal segment of antennae. Both rows of fore-femoral spines are quite long; the tibia considerably curved and armed outwardly with two smaller spines and a long stout preapical spur, inwardly with three long spines. First genital segment of the female with the outer apical lobes subacute extended nearly to the posterior margin of the last genital segment which is nearly quadrate and shallowly concave at apex. Corium marked with a distinct fuscous spot at inner apical angle of the discal cell and the connexival segments are infuscated at incisures.

This species is not related to any hitherto described species but its affinity to *brevispina* n. sp. from Panama is quite close.

*Pnirontis scorpionia* Berg 1879.

Female: Head somewhat shorter than pronotum, the latter about one-eighth longer than wide. Eyes little protruding their width about half of interocular space; seen from the side longer than wide. Ocelli large, set much closer to eyes than to the longitudinal median groove. Antenniferous tubercles short, their inner margin about one-half the length of an eye, scarcely spined at outer apex. Basal segment of antenna (including apical spine) long, nearly one-fourth longer than head, and four times as long as preocular margin of head, not long pilose; armed beneath with 5-6 short setigerous spines towards base; apical process long, stout and acute, about one-fourth as long as remainder of segment. Jugae very short, scarcely visible; tylus extended as a long process, for nearly one-half its length beyond the apices of the antenniferous tubercles, forked at apex. Genae long subacute, well extended beyond apices of antenniferous



tubercles with two or three branched spines before eyes. Behind eyes armed with four or five ramose spines, one next the eye the longest. Anterior femora with two rows of spines, the outer series with three longer spines and an inner series of 6-7 smaller spines with one or two minute basal spines. Anterior tibia with two rows of spines, outwardly with two shorter spines and a stout preapical spur; inwardly with three longer spines. Corium and connexivum immaculate. Genital segments of the female narrowly attenuated; the last genital deeply cleft, with the two lateral lobes narrow, and acuminate, with apices subacute. Color pale testaceous. Length 13 mm.

Records and distribution: Described by Berg from Province of Buenos Aires. San Cristobal, St. Fé, Argentina, Feb. 19, 1920 (Cornell Univ.); Chapada, Brazil (Carnegie Mus. Acc. no. 2966).

This species is related to *pallescens* and *tabida* from both of which it can be distinguished by its double series of fore tibial spines and immaculate corium.

#### ***Pnirontis selecta* n. sp.**

Male: Color yellow testaceous; head very sparsely, obsoletely granulose; vein at inner apical angle of discal cell infuscated; head dorsally between the eyes smudged with fuscous, a slight longitudinal median streak on disk of anterior lobe of pronotum and a broad streak on the meso- and metapleura fuscous; incisures of connexival segments obsoletely infuscated; ventral segments 2-5 of the abdomen with two or three short depressed fuscous fasciae on each side. Head but slightly shorter than the pronotum. Eyes neither globose nor strongly projecting, twice as long as wide, more than half the width of the interocular space; seen from the side much longer than wide. Vertex shallowly, longitudinally sulcate between the eyes before the transverse sulcation. Ocelli set far apart, close to the eyes. Antenniferous tubercles (inner margin) short, less than one-third the length of an eye; unarmed at apex; the preocular margin to base of antenna about equal to length of eye. Basal segment of antenna including short apical spine, only a very little longer than head and over three times as long as preocular margin to base of antenna, profusely long pilose within and armed below with 7-8 distinct setigerous spines, one or two of which are branched. The two apical processes (jugae) short contiguous throughout, scarcely at all extended beyond apices of antenniferous tubercles, and their length about

equal to one-half that of the preocular margin of head. Genae very acute, extended about one-fifth way on basal segment of antenna, scarcely spinose below. Behind eyes armed with two or three simple spines, anterior one the most prominent. Prosternal spines long, acute, their apices almost in contact with post-ocular spine. Pronotum one-fourth longer than wide, with anterior lobe one-fourth longer than posterior one and deeply longitudinally sulcate posteriorly; anterior angles with a short subacute spine. Anterior femur with an outer row of five spines, these progressively elongated from base to preapical one, spinulose between these; an inner row of six moderately long spines, this series gradually increasing in length towards apex. Anterior tibia with an outer row of two very short spines and a longer stout preapical spur; with an inner row of three longer spines, with the longest one towards base. Posterior tibia sparsely short setose; posterior tarsus with basal segment very short, the apical one as long as the other two united. Membrane lightly embrowned with apex not reaching middle point of sixth abdominal segment; the latter long and rather strongly contracted posteriorly, nearly one-fourth longer than its basal width, the posterior angles or lobes narrowly rounded at apices and the deep acute sinus between much narrower than a lateral lobe. Length  $11\frac{1}{2}$  mm.

Type: Male, Corumba, Matto Grosso, Brazil—Dec. 14–23, 1919 (Cornell Univ.).

This species differs from *infirmus*, among other characters in the shorter antenniferous tubercles and jugae, the longer basal segment of antenna and the presence of the preapical spur on the fore tibia.

***Pnirontis similis* n. sp.**

Female: Color testaceous with a median longitudinal fuscous stripe running from base of head through the pronotum; central area of scutellum, a longitudinal stripe from anterior coxae along the meso- and meta-pleura and the venter laterally, fuscous; exposed part of the abdomen with a narrow, median, longitudinal fuscous stripe; incisures of the connexivum immaculate.

Head one-fourth shorter than pronotum; preocular one-fifth longer than post-ocular margin; inner margin of antenniferous tubercles a little shorter than eye; jugae long, parallel, well extended beyond apex of antenniferous tubercles; genae long, acute, extended well beyond apex of anten-

niferous tubercles; behind eyes armed with one large ramose setigerous spine and several smaller simple ones. Basal segment of antenna a little longer than head, with a long, stout apical blunt spine and a small apical spine within; armed below with 12-13 simple setigerous spines. Pronotum one-fourth longer than wide with the spines at anterior angles quite acute. Veins of corium conspicuously pale; discal cell much over twice as long as wide. Fore femora armed with an inner row of six long spines increasing in length towards apex and an outer row of four long spines and two much smaller ones towards apex. Fore tibia lightly curved, armed with an inner row of three long spines and outwardly with two longer spines; without a preapical spur but with a small triangular process. Abdomen posteriorly attenuated. Length 17 mm.

Type: Female, Prov. del Sara, Bolivia (Acc. number 5068 Carnegie Museum).

This species is closely related to *inobtrusa* in appearance but differs in the armed basal segment of the antenna and in the character of the spines of the fore femora and tibiae.

***Pnirontis granulosa* n. sp.**

Male:—Head and pronotum distinctly granulose, the latter in a definite pattern. Color pale grayish-yellow, with a prominent black spot at inner apical angle of the discal cell and at apical angles of connexival segments 1-5. Corium and membrane very faintly irrorate with brown; meso- and meta-pleura and the venter longitudinally, on either side of the middle line, marked with a broad fuscous stripe.

Head and pronotum of equal length. Eyes strongly protruding, a little wider than interocular space, seen from the side almost circular in outline. Head distinctly, longitudinally sulcate from just before the transverse sulcation to base. Ocelli large, removed from the eyes by a space about equal to their diameter. Antenniferous tubercles (inner margin) rather long, about equal to the length of an eye, with a minute spine at outer apical angle. Basal segment of antenna relatively short, half as long as head and one-fourth longer than preocular margin, with a very short blunt apical process; sparsely long pilose within; armed below with 5 or 6 small setigerous spines in the central region; apex of second segment of antenna reaching just beyond middle point of eye; third segment very short;

fourth segment about five times as long as fourth. The jugae short, slender, lightly separated towards base, their apices not reaching apex of antenniferous tubercles, and about half as long as preocular margin of head. Genae visible from above, as seen from the side they are rather obtuse at apex which extends very slightly beyond the apex of antenniferous tubercles, slightly crenulate below before the eyes. Behind the eyes with a long branched spine followed by several minute spines and a single branched spine posteriorly. Rostrum with the apex of basal segment reaching midway between eye and base of head. Pronotum nearly one-fourth longer than wide; lateral margins subimpressed; anterior angles armed with acute spine-like process; anterior margin somewhat depressed; anterior lobe smooth with four rows of granules, the one on either side of the longitudinal sulcation forked anteriorly; posteriorly on either side of the longitudinal sulcation with a low, transverse tubercle; posterior lobe just over half as long as anterior lobe, somewhat rugose latterly and furnished anteriorly with four obtuse carinations, evanescent posteriorly, rather strongly depressed in the middle and laterally within the humeral angles. Scutellum sparsely, finely granulose, faintly sulcate in the middle at base. Veins of corium conspicuously pale, and surface faintly irrorate with brown; a very distinct black spot at the inner apical angle of discal cell. Membrane with apex about reaching to middle of sixth abdominal segment, very faintly embrowned and longitudinally pale streaked. Fore femora granulose, moderately incrassate; their apices reaching nearly to the apex of the basal segment of antennae; armed below with two rows of fuscous banded spines, the outer series with four spines, these progressively elongated toward apex, spinulose between these; the inner series with five or six spines, the two nearest base minute. Anterior tibia somewhat curved and likewise armed with two series of long spines banded with fuscous; the outer series consisting of three spines and a long stout preapical spur; the inner series of three longer spines. Connexival segments 1-5 before incisures with a conspicuous black spot. Venter of abdomen with a central longitudinal keel from base to apex of fifth segment, the surface granulose; an oval depressed area on each segment anteriorly midway between middle line and lateral margin. The sixth abdominal segment, seen dorsally, with its lateral margins somewhat converging posteriorly and one-third way from apex suddenly flaring to end in two obtusely rounded



lobes, the inner margins of which are not straight; the sinus between obtuse and much wider posteriorly than one of the lateral lobes; genital segment slightly visible from above. Length 13.5 mm.

Type, Male: Paradise Key, Florida, Feb. 24, 1919. Collected by H. S. Barber (U. S. N. M.).

Readily separated from *infirmus* by the two rows of tibial spines and shorter basal segment of antenna; from *languida* by the spinous basal segment of antenna; from *brimleyi* by the longer basal segment of antenna and the character of the jugae; from *modesta* by the shorter jugae and the granular character of dorsal parts.

*Pnirontis serripes* Fab.

Female: Head and pronotum equally long, the latter only slightly longer than wide. Eyes little protruding, not at all globose, the width about one-half the diameter of the interocular space. Ocelli small, set close to eyes. Antenniferous tubercles long, their inner margin decidedly longer than an eye. Basal segment of antenna, including apical process, rather short, only a little more than half as long as head and scarcely one-fourth longer than preocular margins to base of antenna; scarcely if at all pilose; armed beneath with five or six small setigerous spines which are much shorter than diameter of the segment. Jugae long, parallel, contiguous throughout, extending but slightly beyond apices of antenniferous tubercles, one-third shorter than preocular margins of head. Genae subacute at apex, extending slightly beyond apex of antenniferous tubercles. Behind eye armed with two or three ramose spines, the anterior one the most prominent. Anterior femora with an outer row of four long fuscous banded spines, spinulose between these and an outer row of four shorter spines. Anterior tibia outwardly with two small premedian spines and a long preapical spur, inwardly with three long spines, the prebasal one the longest. Corium and connexivum immaculate. First genital segment (female) a little longer than wide; second genital segment a little shorter than first, narrow, obtusely rounded at apex. Length 11–12 mm.

Records and distribution:—Described from Guiana; Canal Zone, Panama (U. S. N. M.); Bartica, Brit. Guiana (J. R. T.-B.).

*Serripes* and *modesta* are rather closely related but the latter has the connexival segments of abdomen maculate with fuscous.



*Pnirontis modesta* Banks.

Color pale testaceous; incisures of connexival segments of abdomen marked with fuscous. Head and pronotum subequally long, the latter a little longer than wide; eyes very little protruding; preocular nearly one third longer than the post-ocular margin; behind eyes armed with three or four small ramose spines; antenniferous tubercles rather long, about equalling the length of eye, armed with a small apical spine outwardly; jugae long, exceeding somewhat the apex of antenniferous tubercles; genae obtusely rounded at apex extending but little beyond apex of antenniferous tubercles. Basal segment of antenna one-half as long as head; armed beneath with a few small spines. Anterior femora armed with two rows of four long spines in each row which increase in length towards apex. Anterior tibia with three long spines in the inner row and outwardly with a premedian small spine and a preapical long spur. Male genital segment ending in two short triangular lobes with the sinus between nearly equally wide as one of the lateral lobes; lateral margins of this segment more nearly parallel than in *infirmata*. Length 11–13 mm.

Distribution: From Virginia south to Florida and west to Texas; Indiana (Van Duzee).

*Pnirontis tabida* Stål.

Female: Head nearly one-fifth shorter than pronotum, the latter about one-sixth longer than wide. Eyes very little protruding, a little narrower than half the diameter of the interocular space. Ocelli large, set closer to eyes than to longitudinal median groove. Antenniferous tubercles, short and wide, their inner margin about one-half as long as an eye; scarcely spined at the outer apex. Basal segment of antenna long, including apical process about one-fifth longer than head and over four times as long as preocular margin of head to base of antenna; apical process long, stout over one-fourth as long as remainder of segment; not long pilose; armed beneath with 5–7 setigerous spines towards base from middle and two others nearer apex, none of these in regular alignment. Jugae extremely short not reaching much beyond middle point of antenniferous tubercles; tylus well developed, extending as a long rather stout process for half its length beyond apices of antenniferous tubercles. Genae wide, with apex subacute or narrowly rounded and extended considerably beyond apices of anten-

niferous tubercles. Head below, behind eyes with several ramose spines, the one next the eye most prominent. Anterior femora with two rows of spines, an outer series of four moderately long spines and an inner series of five or six smaller ones. Anterior tibia with only an inner series of three moderately long spines and below near apex with a short spur. Corium and connexival segments immaculate. Genital segments of the female as in *scorpionia*, much attenuated; the last genital segment is deeply cleft three-fourths way to base, the two outer lobes narrow, acuminate, contiguous throughout. Color stramineous as in *scorpionia*. Length 15 mm.

Records and distribution: Stål described the female from Brazil. Two females, Igarapé Assú, Brazil (J. R. T.-B.).

This may be distinguished from *scorpionia* by the single series of fore tibial spines and from *pallescens* by the immaculate corium and difference in the last genital segment of female as well as the difference in relative length of basal antennal segment.

#### ***Pnirontis elongata* n. sp.**

Male: Color pale testaceous with outer coriaceous part of corium and inner veins rosy-red; a fuscous streak laterally before the eyes and about the ocelli, as well as on the disk of the scutellum and a median longitudinal one on dorsum of abdomen; connexival segments with a fuscous spot at the incisures, concolorous below. Coxae more or less infuscated. Head nearly one-third shorter than pronotum, non-granulose. Eyes strongly projecting, decidedly wider than half of the interocular space; seen from the side longer than vertical width. Ocelli very large, somewhat elevated, set much closer to eyes than to median longitudinal groove. Head rather deeply sunken between the ocelli, followed by a rather shallow almost obsolete median groove to base of head; the transverse groove strongly impressed and strongly arcuate between anterior margins of ocelli reaching the eyes rather close to their posterior margins; antenniferous tubercles short, much shorter than one-half the length of an eye and outwardly armed with a short, acute preapical spine. Basal segment of antenna long, including apical spine, nearly one-third longer than head and nearly seven times as long as preocular margin; apical process very short, blunt and with another smaller acute spine at inner apex; densely long pilose; armed beneath with nine long, setigerous spines, fairly evenly spaced in a row; second segment reaching back

to posterior margin of eyes, fourth segment five or six times as long as the very short third segment. The jugae rather long, reaching over one-third their length beyond apices of antenniferous tubercles, subequal in length to preocular margins of head to base of antenna; lightly separated towards base, showing a very short tylus. Genae long, deflected anteriorly, the rounded obtuse apices reaching far beyond apex of antenniferous tubercles and about one-fifth way on basal segment of antenna, roughly tubercular along lower edge. Basal segment of rostrum well extended behind eyes, its apex not reaching middle point of post-ocular region of head. Pronotum non-granulose, one-fourth longer than wide, the anterior lobe over twice as long as posterior one; anterior angles armed with a short acute spine; central disk longitudinally deeply sulcate from well before the middle point; the posterior lobe somewhat wrinkled, scarcely depressed in the center, the longitudinal ridges either side of the middle scarcely elevated, rounded. Membranous part of corium finely wrinkled; apical vein of the discal cell with a slight fuscous mark near outer apical angle. Membrane longitudinally streaked with white, its apex reaching to about the middle of the fifth abdominal segment. Fore femora with a single row of five or six very short setigerous spines below and a few smaller ones within, none of which are as long as the diameter of the femur, spinulose between these. Fore tibia inwardly with two short setigerous spines towards base, neither of which is as long as diameter of tibia and a shorter median spine with no preapical spur. Abdomen elongated, the sixth segment of male, nearly one-third longer than wide, the lateral margins, gradually converging posteriorly to end in two rather short rounded lobes, the sinus between subacute about as wide posteriorly as a single lateral lobe. Length 16 mm.

Type: Male; Lassance, Minas Geraes, Brazil, Nov. 9-19, 1919 (Cornell Univ.); six paratypes, Prov. del Sara, Bolivia, Nov., 1915. Coll. by Steinbach (Carnegie Museum Acc. No. 5068).

This species is quite distinct from any other herein treated but would seem to come in the series with *scutellaris*, *scorpionia* and *tabida* but is readily distinguished by the character of the jugae and especially by the difference in the armature of the fore femora and tibia. It should be noted that Stål in his original key to the genus *Pnirontis*—Öfv. Vet. Akad. pp. 6-7, 1859, was in error in reference to the statement that the basal segment of the antenna was unspined. This was later corrected by him in the Hemiptera Fabriciana.

*Pnirontis grisea* n. sp.

Male: Color grayish; incisures of the connexival segments above and below plainly marked with fuscous; venter with a narrow longitudinal fuscous streak either side of middle line.

Head one-sixth shorter than pronotum; eyes strongly protruding, much wider than half of interocular space and somewhat longer than preocular margin; preocular and postocular margins nearly equal; ocelli large; antenniferous tubercles rather short, not much longer than one-half the length of eye; jugae slightly exceeding the apex of antenniferous tubercles; genae long, acute, extending far beyond apex of antenniferous tubercles; behind eyes armed with three strong ramose spines. Basal segment of antenna a little longer than head with a short blunt spine at apex and armed below with 10-12 short, pale setigerous spines. Pronotum but little longer than wide; dorsally with four rather pronounced ridges posteriorly, more pronounced between the lobes, the surface between these rugulose. Anterior femora with an inner row of four or five short setigerous spines not in alignment, below these on the lower surface are two rows of close-set numerous setigerous spinules, four of which are a little longer than the others. Anterior tibia within armed with three very short spines, shorter than diameter of tibia; below with numerous short oblique setae; preapical spur or triangular process missing. Genital segment with lateral margins gradually converging posteriorly and ending in two obtusely rounded lobes; a wide obtuse angled sinus between these. Length 12 mm.

Type: Male, Prov. del Sara, Bolivia; collected by Steinbach. (Carnegie Museum Acc. number 5068).

This has much the general appearance of *subinermis* described from Panama, from which it differs, among other characters, in the presence of spines on basal segment of antenna and the peculiar armature of the anterior femora.

*Pnirontis incerta* Reuter 1887.

Male: Head one-third shorter than pronotum, the latter one-sixth longer than wide. Eyes rather strongly protruding, their diameter greater than one-half of the interocular space. Antenniferous tubercles rather long, their inner margin considerably shorter than the length of an eye. Basal segment of antenna (including apical spine) one-fourth longer than head, about four times as long as preocular



margin to base of antenna, profusely long pilose; armed beneath with 8 or 9 long setigerous spines; apical spine rather long. Jugae long, well extended beyond apices of antenniferous tubercles and but little shorter than preocular margin; the tylus sometimes visible between the bases of jugae. Genae well extended beyond apices of the antenniferous tubercles, rather obtuse at apex. Behind eyes armed with two or three ramose spines, the one next the eye most developed. Anterior tibia armed inwardly with three moderately long spines, and with no long preapical spur. Anterior femora armed with an inner and outer row of four long spines. Corium immaculate. Connexivum with a fuscous spot at each incisure. Sixth abdominal segment of male, apically much as in *infirma*. Female not seen. Color grayish-testaceous. Length  $10\frac{1}{2}$  mm.

Records: Pará District, Surinam (Cornell); Prov. del Sara, Bolivia (M. C. Z.); Prov. del Sara, Bolivia (Carnegie Mus.).

Closely related to *infirma* but a little narrower with a longer basal segment of antennae and genae more produced. Reuter described this species from a male specimen labeled "India" from the collection of Signoret, certainly an error as to locality. I have not seen the type of this species but the specimens before me answer so well to the author's description I have little doubt of the accuracy of my determination.

*Pnirontis edentula* Berg.

Female: Head and pronotum subequally long, the latter very little longer than wide. Eyes moderately protruding, seen from the side, circular in outline. Ocelli set midway between median longitudinal groove and eye. Antenniferous tubercles rather long (inner margin), nearly one-fourth longer than eyes, not noticeably spined at apex. Basal segment of antenna (including apical spine) but little shorter than head, about twice as long as preocular margin to base of antenna; apical spine over one-third as long as remainder of segment; armed beneath with six short setigerous spines. Jugae long, nearly as long as preocular margins of head, nearly parallel, very slightly separated basally. Genae narrow, acuminate, extended but very little beyond apices of antenniferous tubercles, spinulose below towards base. Behind eyes armed with two branched spines with a smaller simple one between these. Anterior femora armed below with two rows of spines, outer row of 4 moderately long spines, spinulose between these and an inner row of 5 or 6



somewhat shorter spines, with one or two minute basal spines. Anterior tibia with only an inner series of three moderately long spines and no preapical long spur but provided with a triangular compressed tubercle before apex below. Corium with a slight fuscous spot on the apical vein of the discal cell. Connexival segments with a fuscous spot at incisures. First genital segment of the female with the posterior lateral angles (dorsal view) drawn out into narrowly attenuated, acute processes which reach well beyond the middle point of the last genital segment which is much longer than wide and deeply incised posteriorly; the lobes on each side of this acute at apices, and contiguous. Color grayish-testaceous. Female: Length 12-13 mm.

Records and distribution: Described from Buenos Aires by Berg; Corumbá, Matto Grosso, Brazil (Author's collection); Rurenabaque, Bolivia. Coll. by W. M. Mann (U. S. N. M.).

*Pnirontis infirma* Stål 1859<sup>1</sup>

Head shorter than pronotum with the latter equally wide as long. Eyes moderately protruding, about as wide as one-half the diameter of interocular space. Antenniferous tubercles rather long, their inner margin scarcely longer than an eye. Basal segment of antennae (including apical spine) about two-sevenths shorter than head, nearly twice as long as preocular margin; sparsely pilose, armed beneath with 6-7 small setigerous spines and on inner side with three spines (male), apical spine moderately long, one-fourth to one-fifth as long as remainder of segment. Jugae long, well extended beyond apices of antenniferous tubercles and nearly or quite as long as preocular margin of head. Genae rather obtuse at apices which are scarcely extended beyond the apex of antenniferous tubercles. Behind eye armed with a prominent ramose spine followed by one or two smaller simple or ramose spines. Anterior femora armed below with an outer row of four and an inner row of five or six moderately long spines, the inner series usually the longest, but the spines of neither series longer than the diameter of femur. The fore tibia with only an inner series of three long spines and no elongated preapical spur. Corium immaculate. Connexival segments marked with fuscous at each incisure. Apical lobes of the sixth segment in the male

<sup>1</sup> Mayr gives the opinion that *spinossima* Kolenati erroneously described from the Caucasus is probably a synonym of *infirma* Stål.

rounded, the sinus between acute. In the female the first genital segment (seen dorsally) with the lateral lobes subacute, their apices not reaching much beyond middle of last genital segment which is acutely incised in the middle. Cinereous-gray. Size 10-10½ mm.

Distribution—U. S. through Mexico, Central America to Brazil; Jamaica and Cuba.

Records: Panama; Honduras; No. Brazil; Georgetown, Brit. Guiana, Cuba (U. S. N. M.). Canal Zone, Panama and Jamaica (M. C. Z.). Igarapé Assú, Brazil (J. R. T.-B.). Pirapora and Lassance, Minas Geraes; Corumbá, Matto Grosso, Brazil (Cornell Univ.); Prov. del Sara, Bolivia (Carnegie Museum).

#### KEY TO GENUS PNIRONTIS

1. Basal segment of antennae unarmed beneath.....2  
     Basal segment of antennae armed beneath with a row of  
     spines .....7
2. Fore tibia with only an inner series of spines .....3  
     Fore tibia armed with two series of spines and with a long pre-  
     apical spur; tylus produced as a single process beyond the  
     very short jugae; antenniferous tubercles armed with a  
     stout spine .....6
3. Anterior femora below armed with an outer series of very  
     numerous minute spinules and an inner series of very small  
     spines; anterior tibia within armed with three very short  
     spines; without a preapical spur or triangular process; basal  
     segment of antennae nearly or quite as long as head; an-  
     tenniferous tubercles with a small spine before apex; con-  
     nexivum banded with fuscous ..... **subinermis** n. sp.  
     Anterior femora armed with two series of spines some of  
     which are either nearly as long or much longer than the  
     diameter of femur; basal segment of antennae shorter than  
     head; antenniferous tubercles unarmed.....4
4. Anterior femora with an outer series of three or four spines,  
     the longest nearly equal to diameter of femur and an inner  
     series of five or six spines shorter than diameter of femur;  
     fore tibia with three rather long spines and a triangular pre-  
     apical process; connexivum immaculate.....*languida* Stål  
     Anterior femora with an inner series of eight and an outer  
     series of four or five spines; anterior tibia with three spines;  
     head and pronotum equally long.....5

5. Spines of fore femora rather long, some two or three times as long as diameter of femur; spines of fore tibia long; connexivum lightly marked with fuscous at incisures; basal segment of antennae nearly equal to length of preocular margin of head in female..... **acuminata** n. sp.  
 Spines of fore femora and tibia scarcely longer than diameter of those parts; connexivum immaculate; basal segment of antennae nearly twice as long as preocular margin of head in male..... **inobtrusa** n. sp.
6. Anterior coxae armed with a distinct, anteriorly directed spine; head below provided with eight or nine close set ramose spines behind the eyes; narrow species with pronotum one-fourth longer than wide; corium and venter immaculate; connexival incisures obsoletely infuscated. Female ..... **brevispina** n. sp.  
 Anterior coxae unarmed; margin of head behind eyes provided with 3 or 4 irregular ramose spines; pronotum nearly as wide as long; discal cell with a fuscous spot; connexival segments distinctly marked with fuscous; venter with a row of orbicular spots either side of middle. Female ..... **brinleyi** Blatch.
7. Fore tibia armed with two series of spines..... 8  
 Fore tibia armed only with an inner series of spines..... 13
8. Head with tylus produced in a single process; jugae minute; basal segment of antenna considerably longer than head; genae well extended beyond apex of antenniferous tubercles; anterior trochanters armed with a spine; anterior femora with an inner series of 7-8 and an outer series of 4 spines; corium and connexivum immaculate. Female ..... **scorpionia** Berg.  
 Head with jugae well produced anteriorly as two processes; tylus minute or invisible..... 9
9. Basal segment of antenna with apical process as long or a little longer than head, about three times as long as preocular margin; apex of genae reaching far beyond apex of antenniferous tubercles; eyes not strongly protruding..... 10  
 Basal segment of antenna including apical process not much more than half the length of head, but little longer than preocular margin; apex of genae extending but little beyond apex of antenniferous tubercles; anterior tibia strongly curved ..... 11
10. Basal segment of antenna with a slender apical spine; distinctly pilose within; jugae very short, not exceeding apex of antenniferous tubercles; preocular margin of head not longer than eye; anterior tibia with a long, stout preapical spur..... **selecta** n. sp.

Basal segment of antenna ending in a stout apical spine; not long pilose; jugae rather long, exceeding the apex of antenniferous tubercles; preocular margin of head evidently longer than eye; anterior tibia with a preapical triangular process within..... *similis* n. sp.

11. Jugae short, not extending as far as apex of antenniferous tubercles; basal segment of antenna with a very short, blunt apical spine; sparsely long pilose within; eyes rather strongly protruding; head and pronotum finely granulate; corium with apex of discal cell and incisures of connexivum distinctly marked with fuscous. Male..... *granulosa* n. sp.

Jugae longer, extending somewhat beyond apex of antenniferous tubercles; basal segment of antenna not long pilose, ending in a longer, more acute spine; eyes not strongly protruding; corium immaculate or nearly so..... 12

12. Connexival segments of abdomen immaculate; lateral margin of pronotum strongly impressed, carinate; prothorax and hemielytra lightly embrowned with the margins paler ..... *serripes* Fab.

Connexival segments marked with fuscous at the incisures; lateral margins of pronotum scarcely carinate..... *modesta* Banks

13. Tylus extending in a single stout process beyond apex of antenniferous tubercles; jugae very short, scarcely visible; basal segment of antenna, including long apical spine one-fourth longer than head; genae short extending but little beyond apex of antenniferous tubercles; anterior tibia with preapical spur; corium and connexivum immaculate. Female ..... *tabida* Stål

Tylus very short with jugae extending as two porrect processes beyond this; connexivum commonly marked with fuscous at incisures ..... 14

14. Genae long, acute, well extended beyond apex of antenniferous tubercles; all spines of fore femora and tibiae shorter than diameter of those segments of legs; fore tibia straight, without preapical spur or triangular process; head distinctly shorter than pronotum ..... 15

Genae relatively short, not at all or scarcely exceeding apex of antenniferous tubercles; some of the spines of fore femora and tibiae longer than diameter of those segments of legs; anterior tibia either straight or curved, armed with a small preapical triangular process within..... 16

15. Basal segment of antenna decidedly longer than head, bispinose at apex and commonly long pilose within (vari-



- able), spines beneath as long as diameter of segment; incisures of connexival segments lightly marked with fuscous. Male ..... *elongata* n. sp.
- Basal segment of antenna subequally long as head with a very short single spine at apex, very shortly pilose, spines beneath very short; incisures of connexival segments broadly marked with fuscous; general color grayish. Male ..... *grisea* n. sp.
16. Basal segment of antenna, including spine, about equal to length of pronotum, equal to or a little shorter than head and much over twice as long as preocular margin; armed with 9 or 10 spines below ..... *incerta* Reuter
- Basal segment of antenna plainly shorter than length of pronotum and about twice as long as preocular margin of head ..... 17
17. Pronotum plainly longer than wide; antenniferous tubercles long, about one-fourth longer than eye; eyes not much protruding ..... *edentula* Berg.
- Pronotum about as wide as long; antenniferous tubercles shorter, about equal to length of eye; eyes rather strongly protruding ..... *infirmia* Stål

*Rutuba* Bueno

(Type *perpugnax* Bueno)

Related to *Pnirontis*. Head has much the character of that genus with the long basal segment of the antenna produced in a long apical spine beyond the insertion of the second segment; unspined beneath. Antenniferous tubercles are armed with a long, acute, semi-erect spine. Tylus produced as a single acute process before the much reduced jugae. Genae long acute, spined beneath. Behind eyes armed with ramose spines. Fore femora and tibia armed with two rows of spines. Tibia without a spongy fossa at apex. Posterior tarsal segments subequal in length. Pronotum much longer than wide, acutely spinose at anterior angles; lateral margins with an acute tubercle between the two lobes. Discal cell of the corium long. Apical angles of the sixth segment prolonged in acute spine-like processes extended far behind the genital segment, which is somewhat visible from above. Venter longitudinal carinate to apex of fifth segment.

*Rutuba perpugnax* Bueno

Cinereous brown. Head laterally before and behind the eyes, about the ocelli and basally, a median stripe and two



lateral stripes on the posterior lobe, median longitudinal stripe on scutellum, clavus with a longitudinal stripe, a circular spot on the discal cell posteriorly and central dorsal disk of abdomen infuscated. Head much longer than pronotum. Antenniferous tubercles extremely short armed with a preapical acute semi-erect spine. Eyes strongly projecting, much wider than half of interocular space. Ocelli large, set a little closer to eyes than to median longitudinal groove. Tylus produced as a single process beyond the apices of the antenniferous tubercles. Basal segment of antenna, including apical spine, about as long as head, three times as long as preocular margin; densely long pilose within; unarmed below. Genae long acute, produced nearly one-third way on basal segment of antenna, armed with six or seven pronounced spines below. Basal segment of rostrum long, reaching behind posterior margin of eye. Behind eyes armed with five spines, the anterior one slightly branched. Prosternal spines long acute. Pronotum much longer than wide, with anterior lobe not twice as long as posterior one; anterior angles armed with acute spines; two sub-acuate tubercles behind anterior margin; lateral margins finely tuberculate, between the lobes armed with a larger sub-acute tubercle; the central disk longitudinally sulcate from before the middle point, this prolonged on the posterior disk as a shallow depression bounded on each side by carinae, evanescent posteriorly; between these and lateral margin a short granulated carina abbreviated posteriorly. Scutellum longitudinally depressed through the middle. Anterior femora with an outer row of three short spines and a long preapical spine and an inner row of two spines and a long preapical spine. Anterior tibia armed outwardly with three moderately long spines and inwardly with two longer spines as well as a median spine on the front face, with no preapical spur. Discal cell over twice as long as wide. Length, male, 25 mm.

Tumatumari, Rio Potaro, Brit. Guiana, Apr., 1912 (J. R. T.-Bueno).

*Pygolampis* Germar

(Type *denticulatus* Germar)

Possessing many of the characteristics of *Pnirontis*; differing chiefly in the following respects: basal segment of antenna not prolonged in an apical spine beyond the insertion of the second segment and unarmed beneath; anterior

trochanters, femora and tibiae unarmed beneath; posterior legs longer with posterior femora nearly or quite reaching apex of abdomen; venter not carinate in the middle; jugae short with the tylus produced as a short process between them; head dorsally before the collum armed with two prominent tubercles.

*Pygolampis pectoralis* Say

Basal segment of antenna subequal to or a little longer than the head. Body broader than in the next species; the eyes smaller and less protruding.

Distribution: United States; Cuba (Stål); Jamaica (Mus. Comp. Zool.).

*Pygolampis spurca* Stål

Basal segment of antenna decidedly longer than head, sometimes twice as long. Body more slender than *pectoralis* and the eyes larger and more bulging. Posterior angles of of the abdominal segments somewhat produced. Two of the male specimens from Prov. del Sara, Bolivia, are nearly black with paler legs: the two carinae of the posterior lobe of the pronotum sharper and the dorsal aspect of sixth abdominal segment wrinkled—var. **nigra** (Carnegie Museum).

Distribution: Panama (Champion); Surinam (Stål); Bartica, Br. Guiana (J. R. T.-Bueno); Moengo, Dutch Guiana; Mackenzie, Demarara and Tumatumari, Brit. Guiana; El Encanto, Perú; Corumbá, Matto Grosso and Lassance, Minas Geraes, Brazil (Cornell); Upper Mazaruni R., Br. Guiana; Cacaqualito, Colomb; Prov. del Sara, Bolivia; Chapada and Rio Janeiro, Brazil (Carnegie Mus.); Pozo Azul, Costa Rica; Corumbá, Matto Grosso, Brazil (my coll.).

*Pygolampis atrolineata* n. sp.

Dorsal part of head and a broad stripe before and behind the eyes, pronotum, scutellum, hemielytra except for a pale spot before the middle of the outer discal cell of the membrane, connexivum except for the pale incisures and lateral fascia of the sixth abdominal segment heavily infuscated; a black spot on the vein at the outer apical angle of the discal cell of the corium; basal segment of antenna and all of the femora irregularly marked with fuscous; anterior and intermediate tibiae with a basal, median and apical fuscous band; anterior coxae, meso- and metasternum for the most

part fuscous; intermediate and posterior coxae each with a few elongate fuscous spots; venter with a broad fuscous band either side of the median longitudinal groove, coalescing posteriorly, with two similar but narrower bands between these and the margin; spiracles fuscous. Head setulose and piliferous, almost one-third shorter than pronotum; eyes sparsely setulose; ocelli but little further apart than their distance from the eyes; below armed with a ramose spine behind eyes and at base, between which are two simple setigerous spines. Basal segment of antenna over one-third longer than head, measured from apex of antenniferous tubercles to collum; second segment a little longer than first, provided with a few very short, fine hairs much shorter than diameter of the segment; third segment very short, less than one-third as long as terminal one. Rostrum with apex of basal segment reaching just past middle of postocular part of head; second and third segments very short. Prothorax about one-third longer than head, piliferous; anterior lobe slightly longer than posterior one, disk of the latter not sharply bicarinate; humeral angles strongly raised within. Scutellum longer than wide, lightly canaliculate on basal half; apex calloused. Apex of membrane reaching beyond the middle of sixth abdominal segment; inner margin slightly concave; apex forming a slightly rounded obtuse angle (male). Trochanters, femora and tibia setulose, the anterior femora densely so. Venter longitudinally canaliculate on the middle line to apex of the fifth segment. Connexivum with the apical angle of fifth segment rather prominently produced. Lateral margins of the sixth segment slightly converging posteriorly (male), somewhat sinuate, ending posteriorly in two obtusely angled lobes slightly reflexed; the sinus between these forming a broad obtuse angle with the genital segment forming a rounded lobe, visible from above. In the female the apical process of the genital segment (seen from above) is relatively longer than in *spurca*. Length, male, 18 mm.; female, 20 mm.

Type: Male, Puerto Suarez, Bolivia, 150 m., collected by J. Steinbach (Acc. No. 3845 Carnegie Mus.); allotype, same data (Carnegie Mus.).

This species is likely to be confused with dark forms of *spurca*. Besides being considerably larger and more robust as to body and legs, the basal segment of the antenna is relatively shorter and is setulose; the second segment is not provided with long erect hairs; the head is relatively longer and the shape of the sixth abdominal

segment of the male and the genital segment of the female is quite different.

KEY TO SPECIES OF PYGOLAMPIS

1. Body densely pale sericeous. Basal segment of antennae about one-half as long as head. Anterior femora short, incrassate ..... *sericea* Stål  
 Body more or less piliferous, not pale sericeous. Basal segment of antennae as long as or longer than head. Anterior femora less strongly incrassate ..... 2
2. Basal segment of antennae but little if any longer than head. Head just behind eyes armed with a large ramose spine followed by one or two smaller ones ..... *pectoralis* Say  
 Basal segment of antennae much longer than head, often nearly twice as long ..... 3
3. Basal segment of antennae nearly or quite twice as long as head, from apex of antenniferous tubercle to collum; finely pilose. Second segment finely pilose with hairs longer than diameter of the segment. Head behind eyes armed with one ramose spine followed by five simple ones ..... *spurca* Stål  
 Basal segment of antennae shorter, not twice as long as head, setulose. Second segment very sparsely, finely pilose with hairs shorter than diameter of segment. Head behind eyes armed with a ramose spine, another similar one at base and between these with two simple spines. Larger species ..... *atrolineata* n. sp.

*Gnathobleda* Stål

(Type *fraudulenta* Stål)

Somewhat related to *Pnohirmus*. Head below, behind the eyes armed with several ramose spines and a few smaller ones before eyes; bispinose in front; bituberculate basally. Anterior femora somewhat incrassate and armed below with a series of short spines. Basal segment of antenna shorter than head. Genae extended well beyond antenniferous tubercles. Basal segment of rostrum as long as or but a little longer than second and third segment taken together. Venter of abdomen longitudinally sulcate in the middle.

*Gnathobleda litigiosa* Stål

= *G. tumidula* Stål.

Body broader than in *fraudulenta*. All femora irrorate with brown and with more or less evident preapical band of



the same color; fore and intermediate tibia with a subbasal, median and apical brown band. Connexival segments banded with fuscous.

Records: Mexico and Cuba (Stål). Los Amates, Quata, and vicinity of Havana, Cuba (M. C. Z.). Tapachula, Mex.; Quirigua, Guat., Panama and Cuba (U. S. N. M.).

I agree with Champion that *tumidula* is not distinct from *litigiosa*.

*Gnathobleda fraudulenta* Stål

Narrower than the preceding. Legs except for apex of posterior femora not irrorate or banded with brown. Connexivum not banded with fuscous.

Records: Surinam (Stål). Panama (Champion). Corumbá, Matto Grosso, and Pirapora, Minas Geraes, Brazil (Cornell). Pará, Brazil (U. S. N. M.).

*Pnohirmus* Stål  
(Type *violentus* Stål)

This genus closely related to *Pygolampis* may be distinguished as follows:

Head unarmed below before or behind the eyes; not longitudinally sulcate posteriorly. Anterior femora slightly incrassate, armed beneath with a row of small spines. Basal segment of rostrum not nearly twice as long as the second and third taken together, more nearly equal or shorter than the apical two united. Venter longitudinally carinate.

*Pnohirmus violentus* Stål

Head and pronotum scarcely granulose or sericeous, subequally long; basal segment of antenna as long as head. Eyes strongly projecting, one-half as long as preocular margin. Ocelli not elevated, rather large and distinct. Jugae very short obliquely truncate at apex, tylus more projecting and deflexed. Antenniferous tubercles very short, their apices not extending beyond apices of jugae. Basal segment of rostrum but little shorter than second and third taken together. Genae lightly extended beyond apices of antenniferous tubercles. Anterior and posterior angles of pronotum rounded, unarmed. Prosternal spine very short. Inner vein of the elongate discal cell of corium strongly curving inwards, produced. Lateral margins of the sixth

abdominal segment in the male strongly converging, the posterior margin broadly rounded posteriorly, with the genital segment visible as a broadly rounded lobe. In the female the genital segment is acutely produced. The female is usually paler in color than the male and somewhat larger. Length, male 14–16; female 18–20 mm.

Tabernilla, Canal Zone, Panama (U. S. N. M.). Moengo, Boven Cattica R., Surinam; Corumbá, Matto Grosso, Pirapora, Minas Geraes, and mouth of Rio Teffe, Rio Solimões, Brazil (Cornell). Igarapé Assú, Brazil (J. R. T.-B.). E. Santo, Bahia, Santarem and Nova Olinda, Rio Purus, Brazil; Prov. del Sara; Puerto Suarez, Lower Mamoré, R. and Sta. Cruz de la Sierra, Bolivia; Concepción, Paraguay (Carnegie Mus.). Rio Pacaya, Peru (Acad. N. Sci. Phil.).

*Pnohirmus spinifer* Stål

Brachypterous male: Densely sericeous. Head from apex of antenniferous tubercles but little shorter than pronotum. Eyes small but strongly projecting, much less than half as long as preocular margin of head. Ocelli small, set rather close together. Head posteriorly before collum bispinose and laterally before base with an acute spine. Jugae elevated into two rather long, compressed, acute, anteriorly inclined spines; tylus depressed. Antenniferous tubercles outwardly at base armed with a small acute spine. Basal segment of antenna a little shorter than head. Genae acutely produced beyond antenniferous tubercles. Pronotum considerably longer than wide; posterior lobe quite short; anterior angles produced into acute spines, humeral angles armed with a semi-erect, blunt spine; posterior margin before base of scutellum bituberculate. Anterior femora provided with a row of short, black, acute teeth; finely setose between these. Fore tibia straight, unarmed. Hemelytra abbreviated, apex of short membrane reaching middle of first abdominal segment. Spiracles placed just below lateral margin of abdomen, somewhat elevated, as seen from above. Apical angles of fifth segment somewhat prominent; lateral margins of sixth abdominal segment of male, lightly converging posteriorly, with the posterior margin nearly truncate, outer angles rounded; genital segment slightly visible from above as a broadly rounded lobe. Length 17 mm.

Macropterous female: Densely sericeous. Head from apex of antenniferous tubercles considerable shorter than

pronotum; transverse stricture straight, deep; eyes small but strongly projecting, one-fourth as long as preocular margin; ocelli rather small, set rather closer to eyes than to each other; base of head dorsally and laterally before the collum with a series of short, erect, stiff setae; anteriorly more prominently bispinose than in the male; tylus concealed from above; antenniferous tubercles outwardly armed as in the male; basal segment of antenna as long as head. Basal segment of rostrum nearly equal to second and third segments together. Pronotum somewhat longer than wide; anterior lobe slightly longer than posterior one; anterior angles obtusely tuberculate outwardly; anterior lobe behind the middle with a prominent tubercle just inside of the lateral margins; posterior lobe with two posteriorly divergent rounded ridges evanescent shortly behind the middle; humeral angles not spinose but tumidly elevated within. Scutellum sulcate at base. Fore femora and tibia as in the male. Discal cell of the corium less elongate than in *violentus* and with the inner vein straight. Apex of membrane reaching back to apical margin of fifth segment. Genital segment very lightly, acutely incised at apex. Length, female 20 mm.

Records: Surinam (Stål); male, Coroico, Bolivia (my coll.); female, Bolivia (M. C. Z.). Stål described the brachypterous male from Surinam in Enum. Hem. II, 122, 1872.

The female in some respects is quite different from the male and might readily be considered a distinct species, where the two sexes were not at hand for comparison.

I have not been able to recognize *P. whymperei* which Distant described from La Mona, Ecuador.

*Ctenotrachelus* Stål 1868

(Type *macilentus* Stål)

= *Schumannia* Champion, Biol. Cent. Amer. Rhynch. II, 185, 1898. (Type *mexicana*.)

Body narrow, elongate. Head much shorter than pronotum. Two anterior processes (jugae) rather short, somewhat acute; surface of gula, margins before and behind eyes armed with a series of simple setigerous spines; those behind eyes larger; antenniferous tubercles armed with a small spine externally; genae anteriorly produced in an acute spine at base of rostrum; the latter not very strongly incrassate, with basal segment as long or but little longer than the

two apical segments together. Eyes sometimes strongly protruding, sparsely setose. Ocelli not at all elevated, usually a little farther apart than each is remote from eyes. Basal segment of antenna most commonly nearly glabrous, shorter than head with second segment considerably longer but not twice as long as basal. Pronotum longer than wide, not laterally constricted, with the anterior lobe much longer than posterior one; anterior angles, anteriorly produced, mutic; the humeral angles not prominent, obtusely rounded; lateral margins either smooth or furnished with a series of small setigerous tubercles or spines. Prosternum without the usual single porrect spine or a much reduced one; the anterior acetabula placed just back of the anterior margin. The anterior coxae longer than wide; the trochanters armed with a few small spines; anterior femora somewhat incrassate, armed beneath with numerous small spinules; anterior tibiae with a spongy fossa at apices. The intermediate legs short; the posterior ones elongate, the apex of femur not nearly reaching apex of abdomen. Scutellum elongate, with a more or less developed tubercle at apex. Membrane subacute or narrowly rounded at apex, not reaching to apex of abdomen. Lateral margins of abdomen nearly parallel to each other; apical angles of the sixth segment more or less produced with a broad sinus between these. Venter at least in part, longitudinally carinate through the middle. Posterior angles of the connexival segments slightly produced.

*Ctenotrachelus macilentus* Stål

Color cinereo-testaceous. Dorsal part of head longitudinally through the middle and middle region of anterior lobe of pronotum obscurely infuscated; anterior femora and hemielytra faintly mottled with fuscous; with a similar colored spot near the center of the outer discal cell of membrane; a dark stripe down the center of the metasternum continued along the venter and another along the pleura; connexival segments at incisures black.

Head one-half as long as pronotum, with preocular margin to apex of antenniferous tubercles one-half the length of postocular to beginning of collum; the two apical processes (jugae) short, acute, nearly parallel to each other; latero-ventrally in front of and ventrally between eyes armed with minute setigerous spinules; behind eyes with five larger simple setigerous spines. Basal segment of antenna nearly four times as long as preocular margin of head; second segment almost one-fourth longer. Rostrum with basal



segment reaching back to middle point of eye, subequal to the two apical ones together. Pronotum twice as long as wide, not laterally constricted; the lateral margins smooth, anteriorly nearly parallel sided to a point before middle thence gradually widened posteriorly; the anterior lobe twice as long as posterior one; the central disk of anterior lobe, longitudinally canaliculate from before the middle; anterior angles anteriorly projected, unarmed; the posterior lobe anteriorly set off by a crescentic groove on either side of the middle point, extending forwards in a smooth lateral line to beyond the middle point of the anterior lobe; central disk of the posterior lobe shallowly depressed longitudinally, leaving a smooth, low, flat ridge on either side; the lateral angles obtusely rounded; posterior margin very slightly rounded. Propleura anteriorly, seen from above, strongly dilated and anteriorly armed with several small spines; anterior acetabula placed at anterior margin. Anterior coxae longer than wide; trochanters armed below with several small spines, apical one longest; anterior femora somewhat incrassate, a little more than twice as wide as the intermediate femora, armed below with numerous small spinules arranged in a double series towards base; anterior tibia a little shorter than femur, setose, provided with a short oval spongy fossa at apex; anterior tarsus with the first and second segments very short, together decidedly shorter than apical segment. Scutellum about twice as long as wide; with a slight tubercle at apex. Clavus of the hemielytra three times as long as scutellum, the outer claval vein spotted with fuscous; discal cell of corium elongate, three times as long as wide. The connexivum narrowly exposed; lateral posterior angles of each segment tipped with a slight black spinule; apical angles of the sixth segment ending in two long, porrect, acute processes, with the sinus between obtusely rounded in the male; these angles less extended in the female and the apical margin of the genital segment between these processes truncate. Venter longitudinally in the middle lightly carinate only at the base of segments. Length of male 16 mm.; female 17 mm.

Distribution: No. Brazil (Stål); Manaos and Teffé. Brazil (coll. by H. S. Parish). These are the specimens listed by Dr. S. B. Fracker in his paper on "Notes on Some Neotropical Reduviidae"—1924 and kindly loaned to me for study. Hyutanahan, Rio Purus, Brazil (Carnegie Mus.).

I have combined Champion's genus *Schumannia* with Stål's genus as I can find no important generic characters to differentiate

them. It is somewhat doubtful whether Champion actually saw specimens of *macilentus*. Under this genus I have described several new species, some of which might, as in the case of *elongatus* and *lobatus*, be considered as representing distinct genera; but although they differ considerably in size the structural differences when considered comparatively are only relative.

**Ctenotrachelus shermani** n. sp.

*Schumannia mexicana* Torre-Bueno, Ent. News 436, 1907.

*Schumannia mexicana* Blatchley, Heter. E. No. Amer. 549-, 1926.

Color testaceous-yellow; sides and median line of head and pronotum, scutellum in great part, apical vein of discal cell near inner angle, a small oval spot near center of outer discal cell of membrane, apical annulus of basal segment of rostrum and lateral stripe of pleura more or less infuscated; corium and membrane mottled with fuscous; fore femora flecked with fuscous, intermediate and posterior pairs, especially towards apex, infuscated; fore tibia with small prebasal and median spot and apex fuscous; intermediate tibia with premedian and apical ring, posterior with only the apex fuscous; connexivum with a small black spot at apical angles of 1-5; abdomen dorsally mottled with fuscous with two rows of round black spots laterally, a pair on each segment, a narrow median longitudinal black line and most of genital segment black; venter laterally with faint broken traces of the continuation of the pleural vitta with a small oval black spot on each segment between which and margin is another row of fainter spots. Head a little less than half as long as pronotum; preocular margin to base of antenniferous tubercles almost one-half as long as postocular margin to beginning of collum; ventro-laterally with several minute setigerous tubercles before eyes and four longer ones behind the eyes. Ocelli twice as far apart as each is removed from eyes. (Antennae missing.) Basal segment of rostrum a little shorter than second and third segments united. Pronotum nearly twice as long as head, one-third longer than wide, with anterior lobe not quite twice as long as posterior one; the lateral margins smooth; the anterior lobe deeply sulcate down the middle from the center to a rather deep transverse depression on either side of the middle, separating the two lobes; the posterior lobe nearly smooth, shallowly, longitudinally depressed in the middle.

Dilated propleura or acetabula armed with several spines along the margin; the acute prosternal spines, black, small. Anterior coxae with several small black spines; trochanters with several stronger spines; strongly incrassate fore femora armed below with a row of numerous spinules, diminishing in length towards apex, arranged in a double row towards base; anterior tibia shorter than femur, the oval spongy fossa at apex as long as tarsus; tarsus short with the second and third segments fused into one; intermediate legs short; apex of posterior femora reaching to middle of fifth abdominal segment. Scutellum longer than wide with apex narrowly, bluntly rounded and a little elevated; postscutellum with a small black tubercle. Apex of membrane rounded, obtuse, reaching as far as apical margin of fifth abdominal segment. Lateral margins of abdomen (female) not parallel but gently rounded from base to apex; the connexival margins rather broadly exposed with apical angles of fourth and fifth segments angulated and somewhat prominent; the lateral margins of the sixth segment rather strongly converging from base to apex with the apical angles (female) rounded and but slightly produced beyond the truncated margin of the genital segment; the latter with two or three small spines at each outer apical angle. Length female 14 mm.

Type: Female, Raleigh, No. C., June 28, 1902; coll. by Prof. Franklin Sherman, Jr. (U. S. N. M.).

This is the specimen referred to by Prof. Blatchley as *Schumannia mexicana*. His fig. 132 is of the true *mexicana* reproduced from Champion's fig. in the *Biologia*; also his description pertains to that species. However it should be pointed out that an error occurs on p. 550, line 1, which should read: the front lobe is much longer than the hind one. *C. shermani* besides being much smaller and differently marked can be readily distinguished from *mexicana* by the smooth margins of the pronotum, character of the scutellum and much less parallel margins of abdomen, etc.

*Ctenotrachelus mexicanus* Champion 1898

*Schumannia mexicana* Champion.

Grayish-ochraceous; head with a broad fuscous median stripe in front and disk behind the ocelli to base of collum and the central region of anterior lobe of pronotum infuscated; scutellum black; hemielytra mottled with brown, with a brown streak externally along the inner vein of the discal

cell; similar streaks along the inner and posterior vein of the outer discal cell of the membrane, the membrane lightly mottled with brown and with a row of small round fuscous spots along the center of the outer cell; a small black spot at the outer-apical angles of each connexival segment; anterior femora faintly mottled with brown; all femora with a fuscous spot above, some distance before apex; the anterior and intermediate tibiae with the apex and spots near the middle brown; venter laterally with a row of brown spots, the surface elsewhere lightly mottled with fuscous.

Head much as in *C. macilentus* but relatively a little longer, somewhat over half as long as the pronotum, with the preocular margins to apex of antenniferous tubercles a little shorter than the postocular to the collum; the two anterior processes (jugae) more produced anteriorly; the apical spine of the antenniferous tubercles more evident; the pregenal spine at base of rostrum acute; behind eyes armed with three or four well developed setigerous spines and several smaller ones at base of head; basal segment of antenna over twice as long as the preocular margin; second segment not quite twice as long as basal one; third segment a little shorter than fourth. Basal segment of rostrum but little longer than the two apical taken together; second and third segments subequal. Dilated anterior margin of propleura and the rim of the acetabula with several small spines; prosternal spine very small. Anterior trochanter with longer black spines at apex; anterior femora rather strongly incrassate, armed below with a series of minute spines, those nearest base black and arranged in a double series; anterior tibia gently curved and provided with an oval spongy fossa which is much shorter than tarsus; the latter with first and second segments fused into one. Pronotum with lateral margins provided with a row of small setigerous spines; very nearly twice as long as wide, with the anterior lobe over one-third longer than posterior one, which is rugulose and furnished with four low ridges, more evident anteriorly; the median narrow sulcus of the anterior lobe is continued as a gradually widening depression in the middle of posterior lobe. The elongated scutellum with a prominent black tubercle at apex followed by a lower whitish tubercle on the post-scutellum. Apical margin of the membrane sinuate before the acute apex which reaches back to beyond the middle of the sixth abdominal segment. Posterior lateral angles of the connexival segments slightly prominent, the fifth particularly more produced; apical angles of the sixth segment pro-



duced into broad flat lobes which are somewhat acute, leaving a broad rounded sinus between; the genital segment slightly visible from above. The second and third pair of legs are rather bristly setose; apex of posterior femur reaches to the apex of the fifth abdominal segment. The metasternum, and the first three segments of the venter longitudinally carinate. Length of male 18 mm.

Distribution: near Vera Cruz, Mexico (Champion); Cabima, Panama, May 21, 1911, coll. by Aug. Busck (U. S. N. M.). Kartabo, Bartica District Br. Guiana, Oct. 1920 (Cornell Univ.). Puerto Suarez, Bolivia, 150 m., coll. by J. Steinbach (Acc. No. 3845 Carnegie Mus.).

**Ctenotrachelus minor** n. sp.

Color grayish-stramineous: side of head before eyes, central vitta dorsally continued through the pronotum faintly infuscated; scutellum in great part black, with lateral and two short median vittae, sordid stramineous; hemielytra lightly infuscated between the paler veins; membrane mottled with brown with a longitudinal vitta on either side of vein separating two discal cells, an oval fuscous spot near the center of the inner discal cell; apical angles of the connexival segments black; antenna with the inner part of basal segment and the remaining segments brown; fore femora and intermediate one towards apex mottled and the posterior pair longitudinally striated with fuscous; all tibiae infuscated at apex, fore one also with some median spots; pleura with a lateral fuscous vitta, continued as a mottled streak laterally on the venter; the latter with two rows of oval black spots along the sides, arranged three on a segment, two in front and one behind.

Head granulose, only about one-third shorter than pronotum; preocular margin to apex of antenniferous tubercles almost one-third shorter than postocular margin to beginning of collum; apical spine of antenniferous tubercles minute; two anterior processes (jugae), short and somewhat divaricate; preocular spines of lower margin small, but distinct; behind eyes armed with five or six setigerous spines, somewhat irregular as to size and arrangement; base of head laterally and dorsally with a few small spines. Basal segment of antenna three times as long as the preocular margin to apex of antenniferous tubercles; second segment almost one-third longer than basal one. Rostrum with basal segment about equal to the second and third united. Pronotum

with lateral margins provided with a row of five setigerous spines directed obliquely backwards; not nearly twice as long as wide; the anterior lobe nearly twice as long as posterior one, and canaliculate down the middle from just behind the middle point, with an elongate smooth area on each side just within the lateral margins; the posterior lobe somewhat granulose and finely pilose, with a longitudinal somewhat depressed area in the middle, gradually widened behind bounded by a slight ridge on each side. Dilated propleura and acetabula armed with small spines along the margin; the prosternal spines small, black and located beneath the head. The fore legs as in *testaceus* but the spinules on trochanters and femur black. The elongated scutellum humped or swollen at apex; the postscutellum with a less elevated whitish tubercle. Hemelytra with the veins appearing rather conspicuous on the brown surface, a black spot on the apical vein near the inner angle of the discal cell; the membrane appearing somewhat streaked with brown and sordid white; the apical margin sinuate before the subacute apex which reaches to the posterior margin of the sixth abdominal segment. Connexival margins narrowly visible posteriorly, the angles of the segments a little prominent, the fifth very acute, the sixth extending posteriorly in two subacute processes, which are about as long as their diameter at base; the sinus between wide and truncate above, the genital segment slightly visible from above. The meso- and metasternum as well as the venter as far as the apex of the fifth segment strongly carinate. Length of male 15 mm.

Type: Male, Georgetown, British Guiana, July, 1921—Coll. by Aug. Busck. Paratype: Male, same data (U. S. N. M.).

This species is much smaller than *testaceus* with the lateral margins of pronotum spined.

#### **Ctenotrachelus testaceus** n. sp.

Color testaceous-ochraceous; longitudinal median line of head, forked before the transverse groove, and median vitta of anterior lobe of pronotum faintly infuscated; scutellum dusky in the middle; outer discal cell of the membrane with a small central fuscous vitta; connexival segments near incisures with small fuscous spots; anterior and intermediate femora faintly mottled with fuscous; anterior tibia with apex and spots near middle and apex of intermediate and posterior ones fuscous; beneath with a lateral stripe on the pleura, continued along the sides of the venter.

Head somewhat more than half as long as pronotum; the preocular margin to apex of antenniferous tubercle (seen from above) about equal to postocular margin to beginning of collum; the spine at apex of antenniferous tubercle very minute; the two anterior processes (jugae) short, reaching forward to a point midway between apex of antenniferous tubercles and apex of head; porrect progenal spine quite evident; behind eyes armed with five prominent setigerous spines. Ocelli red, the space between greater than the space between one of these and the eyes. Basal segment of antenna nearly three times as long as preocular margin to apex of antenniferous tubercles; second segment over one-fourth shorter than basal, fourth segment much longer than third. Rostrum with basal segment a little longer than second and third united. Strongly dilated propleura on rim of the acetabula with several small marginal spines, the prosternal spines short, projected forward beneath the base of head. Anterior trochanters with two or three long, concolorous spines; fore femora strongly incrassate, armed below with numerous spinules, arranged in a double series towards base; anterior tibia with the usual somewhat elongate spongy fossa at apex; anterior tarsus with second and third segments fused into one; intermediate and posterior legs bristly setose; the posterior femora not reaching to apex of fifth abdominal segment. Pronotum nearly twice as long as wide with anterior lobe three-eighths longer than posterior one; the lateral margins not spinose; the dorsal surface somewhat granulose; the anterior lobe longitudinally sulcate in the middle from just behind the middle point, the disk on either side with two elongate smooth vittae, arising from a single stalk at the transverse groove; the posterior lobe broadly depressed along the middle, more deeply so in front, leaving a smooth calloused ridge on either side more evident anteriorly and evanescent posteriorly; posterior margin lightly concavely arcuate before scutellum. Elongated scutellum very slightly elevated at apex, post-scutellum with an equally elevated whitish tubercle. Apex of membrane narrowly rounded, not acute, reaching almost to middle of sixth abdominal segment. Connexivum narrowly visible from middle of first segment; the apical angles of the segments lightly prominent, but scarcely spinose; the lateral margins of the sixth segment not parallel but gradually converging posteriorly; the posterior angles (male) produced into sub-acute lobes with the outer lateral margins rather strongly curved and finely serrate; the sinus between semicircularly

rounded with the genital segment lightly visible from above. Venter with the first four segments weakly carinate in the middle. Length, male 18 mm.; female 19½ mm.

Type: Male, Tabernilla, Canal Zone, Panama, May 13, 1902. Paratypes: Male, same locality, June 4, 1907; females—2 same locality June 1 and 14th, 1907; 3 La Chorrera, Panama, May 10, 1912, all collected by Aug. Busck (U. S. N. M.); 1 female, Cano Saddle, Gatun Lake, Panama, May 8, 1923, coll. by R. C. Shannon (U. S. N. M.). Don Diego (100 ft.), Dept. Magdalena, Colombia; Puerto Suarez, Bolivia, 150 m. (Acc. No. 3845 Carnegie Mus.). Male, Aracataca, Magdalena, Colombia, Aug. 8, 1920 (Acad. Nat. Sci. Philadelphia).

This species is related to *mexicana* but can be readily distinguished by the absence of spines on the lateral margins of pronotum.

#### **Ctenotrachelus elongatus** n. sp.

Color dusky testaceous-cinereous; head anteriorly with a longitudinal vitta and surface behind ocelli fuscous; pronotum and corium outwardly somewhat embrowned; inner field of corium lightly and membrane more plainly mottled with fuscous irrorate with pale, a fuscous spot at apex of clavus, another on apical vein of discal cell and a somewhat elongate vitta near the center of the outer cell of membrane; basal segment of antenna with one or two abbreviated fuscous vittae; anterior and intermediate femora faintly mottled with brown with a distinct brown spot some distance from apex; the anterior and intermediate tibia, the latter only towards apex, with a longitudinal fuscous stripe; connexivum and exposed part of abdomen, posteriorly more or less infuscated, the latter with a distinct longitudinal black vitta, intermixed with irregular longitudinal pale spots on either side; pleura with a longitudinal fuscous vitta; venter with central carina entirely and lateral surface on either side mottled with fuscous, mottling arranged in two broad indefinite vittae; extreme apical angles of connexival segments black.

Head about one-half the length of the pronotum; ante-ocular margin to apex of antenniferous tubercles one-half the length of the postocular margin; external spine at apex of antenniferous tubercles minute; the two anterior processes (jugae) acute; before eyes, below with five or six distinct setigerous tubercles; behind eyes with four longer



setigerous tubercles. Basal segment of antenna about five times as long as preocular margin to apex of antenniferous tubercles; second segment almost one-third to one-fourth longer than basal one; third segment one-third longer than fourth. Basal segment of rostrum as long as the second and third united. Pronotum with lateral margins mutic, twice as long as wide, anterior lobe three-eighths longer than posterior lobe, the former with the usual longitudinal median deep groove from just before the middle to the posterior lobe, where it is continued as a gradually widened median depression, with a broad somewhat elevated area on each side. Dilated anterior acetabula with a few spines on the margin; the black prosternal spines acutely well produced. Anterior trochanters with two or three prominent spines at apex; anterior femur moderately incrassate, less so than in *mexicanus*, armed beneath with numerous spinules; anterior tibia nearly as long as femur with an elongate, oval spongy fossa at apex; anterior tarsus with second and third segment fused; intermediate legs short, the femur shorter than anterior one; posterior femur, relatively short, apex reaching to middle of fourth abdominal segment. Elongate scutellum lightly elevated at apex (post-scutellum mutilated). Rounded apex of membrane reaching to beyond the middle of the fifth abdominal segment. Lateral margins of abdomen anteriorly subparallel, posteriorly with margins of fifth and base of sixth lightly converging, remainder of sixth nearly parallel sided; apical angles of connexival segments most lightly prominent; posterior angles of sixth extended posteriorly in two somewhat acute lobes, each a little longer than their diameter at base, their inner margins oblique to the rounded base of sinus; genital segment slightly visible from above. Venter longitudinally strongly carinate in the middle through the first three and to the middle of the fourth segment. Length 22 mm.

Type: Male, Caracas, Venezuela (Coll. of J. R. de la Torre-Bueno).

This species differs from all of the other species in the less incrassate anterior femora, relatively longer abdomen which is longer than the remainder of the body and with shorter hind femora.

(To be Continued)

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## ESSAY ON THE SUBFAMILY STENOPODINAE OF THE NEW WORLD

*(Continued from December, 1929)*

### **Ctenotrachelus lobatus** n. sp.

Color grayish testaceous; head, pronotum anteriorly followed by a rather wide fascia paralleling the lateral margins of both lobes and corium, faintly infuscated; the latter faintly, and the membrane mottled with pale sordid white, with a short black streak near the center of the outer cell; apical part of basal segment of antenna obscurely as well as narrow base of second segment embrowned; anterior femora faintly mottled with fuscous; anterior tibia in front with a short sub-basal and pre-median streak and the apical half infuscated. Connexivum, posterior exposed part of abdomen heavily infuscated, with a few longitudinal pale fasciae inwardly; narrow middle line on the meso- and metasternum and venter as well as a similar line running along the pleurae infuscated; sides of the venter with two or three longitudinal irregular broken fuscous fasciae, a small oval spot on each segment anteriorly midway between middle line and margins.

Head one-half as long as pronotum; the two anterior processes (jugae) are extended forward on a line with the apex of head seen below; behind eyes, below armed with five setigerous spines. Basal segment of antenna longer than in the other species described, but little shorter than head, five times as long as the preocular margin, and sparsely pilose;

second segment also pilose, one-third longer than basal one; third and fourth segments nearly equal in length. Pronotum nearly twice as long as wide; anterior lobe three-eighths longer than posterior one; lateral margins mutic; longitudinally sulcate from the middle point and continued as a gradually widened depression on the posterior lobe where it is bounded on each side by two broad longitudinal elevations, longitudinally depressed along the margins. Dilated acetabula spined along the anterior margin; prosternal spines black, well developed. Anterior trochanters with a few spines; femur less incrassate about  $2\frac{1}{2}$  times wider than tibia, and more elongate than in *mexicanus*, about as long as the pronotum, armed below with numerous spinules in a single series with a double series towards base; anterior tibia shorter than femur with a short spongy fossa at apex; tarsus with the second and third segments fused into one. Scutellum elongate (mutilated). Rounded apex of the membrane reaching to just beyond the middle of the fifth segment of abdomen. Lateral margins of the abdomen nearly parallel, the apical angles of the connexival segments with a slightly prominent subacute spine; angles of the fifth more prominent; posterior angles of the sixth segment projected posteriorly in two broad rounded lobes, with a broadly rounded sinus between; the genital segment slightly visible from above. Venter with the first three segments longitudinally carinate in middle. Intermediate legs missing. Apex of posterior femur not reaching to apex of fourth abdominal segment. Length 22 mm.

Type: Male; Rio Janeiro, Brazil (Coll. of P. R. Uhler in the U. S. N. M.).

This species is most closely related to *C. elongatus*, from which it can be distinguished by the relatively longer basal segment of antenna and its pilosity, the longer and less incrassate fore femora and character of the posterior angles of the sixth abdominal segment. This answers somewhat to the description of *C. longicollis* of Walker but disagrees in several particulars.

#### **Ctenotrachelus infuscatus** n. sp.

Male. Testaceo-stramineous, heavily infuscated. Head before the eyes and behind the eyes on either side with a longitudinal testaceous fascia; anterior and posterior lobe of pronotum except for the paler longitudinal ridges of the latter, mottling of pleura, a wide longitudinal stripe below on pleura, fuscous; scutellum except for pale tubercle of post-

scutellum, hemielytra except for scattered, irregular spots and broad irregular white fascia in the outer discal cell and adjoining area of membrane, infuscated; connexival segments posteriorly, a row of orbicular spots on the testaceous venter within the lateral margins and fainter maculations elsewhere, fuscous; antennae testaceous with apex of basal, base and apex of second infuscated (third and fourth segments missing). Rostrum testaceous, base, middle annulus of basal and inner base of second segment fuscous. Legs testaceous; anterior femora irregular below, intermediate and posterior pairs more faintly infuscated; anterior and intermediate tibia annulate with fuscous premedianly and apically.

Closely related to *mexicanus*. Dorsal parts not setulose but sparingly pilose. Head, from apex to anterior margin of pronotum, one third shorter than pronotum; pre-ocular margin to apex of antenniferous tubercles, a little shorter than post-ocular margin; jugae slender, parallel, not acute at apices; antennal tubercles outwardly furnished with a small setigerous spinule; behind eyes below armed with four rather long, simple setigerous spines; before eyes with a row of very small setigerous spinules; genae anteriorly acute. Basal segment of antenna very sparsely pilose, one third shorter than head from apex of antenniferous tubercles to collum; very nearly three times as long as preocular margin; second segment one fourth longer than first. Pronotum with lateral margins unarmed; not quite twice as long as wide; the narrower anterior lobe considerably longer but not twice as long as posterior lobe; the posterior lobe with a low longitudinal calloused ridge on either side of middle, rather widely separated posteriorly, the surface between rugulose. Anterior margin of propleura and rim of acetabulum with short spines; prosternal spines very small, porrect; lateral margins of prosternal grooves with a row of small black spinules. Apex of scutellum furnished with a slightly elevated, stout, semi-erect tubercle; post-scutellum with a small, yellow tubercle rounded at apex. Discal cell of corium over twice as long as wide, bounded inwardly and posteriorly by fuscous veins; faintly spotted with pale. Membrane with posterior inner margin sinuate; apex nearly acute, nearly reaching middle of sixth abdominal segment. Apical angles of connexival segments 1 to 5 acutely prominent, lateral edge between these spinulose; apical angles of sixth segment acute not attenuate; the sinus between widely rounded. Venter plainly, longitudinally carinate to middle of fifth



segment. Anterior trochanters with three or four small, black spinules; incrassate fore femora scarcely setose, armed below with a row of small spinules of uneven length; spongy fossa of anterior tibia rather short. Length of male 22 mm.

Type: Male, Villa Braga, Brazil, Dec. 1919 (Acc. No. 6544 Carnegie Mus.).

This may be differentiated from *mexicanus* by its different coloration, lack of setae on the body and legs, shorter pronotum with non-spinous lateral margins and more evident carinae on posterior lobe of pronotum, etc.

**Ctenotrachelus setulosus** n. sp.

Color, grayish stramineous. Head sparsely sericeous and setose; somewhat less than half as long as pronotum; eyes not very strongly protruding; preocular margin to base of antenna a little shorter than postocular margin to beginning of collum; the ocelli almost twice as far apart as each is remote from eyes; spine at outer apex of antenniferous tubercles extremely small; jugae short, acute. Basal segment of antenna, sparsely setose, but little shorter than entire head; second segment one-third longer than basal; third and fourth segments subequal, together nearly as long as basal segment. Pregenital spines at base of rostrum very prominent. Through entire ventral surface of head provided with a row of setigerous spines on each side of middle; behind eyes armed with a double row of setigerous spines—five in the lower series, three or four in the upper series. Rostrum not banded with fuscous; basal segment but little shorter than second and third united. Pronotum with lateral margins armed with setigerous spines; over twice as long as wide, not constricted laterally; anterior lobe almost one-third longer than posterior one, canaliculate down the middle from before the middle point; posterior lobe longitudinally, shallowly depressed in the middle and within the lateral margins, posteriorly; anterior and humeral angles unarmed. Anterior acetabula dilated and armed with small spines along anterior margin. Anterior trochanter with a few small spines. Anterior femora long, as long as pronotum, and moderately incrassate, just over twice as wide as tibia, provided with numerous setigerous spines above and armed below with a row of numerous small spines; anterior tibia almost straight, shorter than femur, with a short, apical, spongy fossa; anterior tarsus long with second and third segments

fused into one; anterior claws contiguous at base, little divaricate towards apex; intermediate femur short, this and the posterior one provided with numerous setigerous spines; apex of the latter reaching just behind middle of fourth abdominal segment; scutellum lightly elevated at apex but not furnished with a tubercle. Membrane lightly flecked with brown, with a short, fuscous fascia near the center of the outer cell; apex narrowly rounded, reaching slightly beyond the apex of the fifth abdominal segment. Lateral margins of the abdomen parallel, finely spinose serrate, ending in two somewhat acute flaring lobes, with a broad, obtuse sinus between; the margins on each side provided with three or four setigerous spines. Venter distinctly carinate through the first four segments, less distinctly so, on the fifth and sixth segment. Length of 21.5 mm.

Type: Male, Coroico, Bolivia. (Author's collection).

In this species the body and legs are more setulose than in other members of the genus; the anterior femora are relatively longer and less incrassate. As other differences are relative I have hesitated to erect a distinct genus for it.

**Ctenotrachelus striatus** n. sp.

Testaceous. Two narrow lines on the anterior part of head coalescing on the transverse stricture, a single longitudinal median line running from the stricture to base, sides of head before and behind eyes fuscous; pronotum with several narrow longitudinal fuscous striae forming a regular pattern with more obscure and less definite lines on posterior lobe; a broad fuscous band running from the anterior margin of the propleura to the posterior margin of metapleura; scutellum with central region, sides and apex infuscated; spine of post-scutellum pale; hemielytra infuscated; irregularly blotched with paler spots, appearing striated because of the pale veins; outer discal cell of membrane sometimes provided with a post-median orbicular black spot; membrane lightly irrorate with fuscous and obscurely pale streaked; antennae pale, basal segment apically below, second segment in the middle and at apex lightly infuscated; legs pale, anterior trochanters and extreme base of femora below, black; remainder faintly marked with fuscous; intermediate and posterior femora irregularly banded with fuscous before the apex, elsewhere somewhat mottled with fuscous; all tibia with a premedian and apical fuscous annulus.

Head about one-third shorter than pronotum; pre-ocular margin to apex of antenniferous tubercles slightly longer

than post-ocular margin to beginning of collum; spine of antenniferous tubercles very small; jugae slightly divergent, acute; behind eyes below armed with three simple, black, setigerous spines followed with one or two minute ones; before eyes with a row of minute spinules; ocelli somewhat further apart than each is removed from the eyes. Basal segment of antenna one-half as long as entire head and twice as long as pre-ocular margin; second segment over one-fourth longer than first. Pronotum relatively broad, nearly one-half as wide as long; lateral margin not provided with spines or setae; posterior lobe one-third shorter than anterior one, the former with two low longitudinal dorsal carinae on each side of the middle; the inner ones more evident; anterior margin of propleura and rim of acetabula spinose; prosternal spines short, acute; margins of prosternal grooves spinulose. Scutellum with a blunt low tubercle at apex; post-scutellum armed with an anteriorly inclined sub-acute spine not as high as scutellar tubercle. Veins of corium pale; discal cell not twice as long as wide; posterior inner margin of membrane sinuate; apex not acute, reaching beyond middle of sixth abdominal segment. Apical angles of connexival segments prominently acute, the edge appearing serrate between these; apical angles of sixth segment of male produced into short triangular lobes which extend but little beyond apex of the genital segment; sinus between broadly rounded. Venter with only the first and second segments plainly longitudinally carinate in the male, first three in the female. Legs very sparsely setose; anterior trochanters with one longer and three smaller black spines; rather strongly incrassate anterior femora armed below with a row of small, irregular spines; spongy fossa of anterior tibia shorter than tarsus. Length male 21 mm. Female 25 mm.

Besides being larger and differently colored than *mexicanus* the body is not setose, pronotum is relatively longer and is unarmed along the lateral margins; pre-ocular is a little longer than post-ocular margin of head; fore femoral spines are fewer, etc.

Type: Male; Hyutanahan, Rio Purus, Brazil, Feb., 1922. Collected by S. M. Klages (Acc. No. 6963). Allotype: Nova Olinda, Rio Purus, Brazil, May 1922. Same collector (Acc. No. 6962). Paratypes: Males, Pied Saut, Oyapok R., Fr. Guiana, Dec., 1917 (Acc. No. 6111); Mana R., Fr. Guiana, May, 1917 (Acc. No. 6008). All in Carnegie Museum.

**Ctenotrachelus acutus** n. sp.

Male. Testaceous; head, anterior lobe of pronotum, apex of scutellum, acute apical angles of connexival segments, propleura above and lateral line on all of the pleura, exposed part of sixth abdominal segment in great part and first segment of antenna except at base heavily infuscated; apex of second segment of antenna and most of rostrum embrowned; scutellum, except outer basal angles marked with fuscous; hemielytra lightly infuscated, interspersed with small pale spots; discal cells of membrane testaceous, spotted and obscurely streaked with fuscous; venter nearly immaculate, a slender, median longitudinal fuscous line on the carina and one or two small fuscous spots on each segment between middle line and lateral margins; legs testaceous nearly immaculate, anterior and intermediate tibia in the middle and at apex faintly marked with brown.

Body and legs non-setose. Head somewhat more than half as long as thorax, about as long as anterior lobe of thorax; eyes strongly protruding; pre-ocular just one-half as long as post-ocular margin to beginning of collum; ocelli set further apart than each is removed from the eyes; behind eyes armed with four simple setigerous spines; before eyes laterally devoid of spinules or setae but beneath with several setose spinules; jugae acute, subparallel; antenna rather profusely long pilose; basal segment as long as entire head, six times as long as pre-ocular margin; second segment one-fourth longer than first and third much shorter than fourth segment; rostrum glabrous. Pronotum with lateral margins unarmed, not quite twice as long as wide; anterior more than one-third longer than posterior lobe; latter furnished with a wide, deep, longitudinal, parallel sided groove in the center, either side of which is a wide, flat, elevated ridge, depressed between this and the margins; anterior margin of propleura and rim of acetabula with minute spinules; prosternal spines short, black, acute; lateral margins of prosternal groove with a row of extremely short spinules, appearing somewhat crenulate. Scutellum merely calloused at apex; spine of post-scutellum mutilated. Discal cell of corium not quite twice as long as wide; inner apical margin of membrane slightly sinuate; apex just passes posterior margin of fifth abdominal segment, narrowly rounded. Lateral margins of abdomen nearly parallel; apical angles of connexival segments acutely prominent; posterior angles of sixth segment (male) drawn out into two long narrow processes, slightly divaricate, but little



shorter than remainder of segment, narrowly rounded at apices; sinus between truncate at base. Venter longitudinally carinate through the first three segments. Anterior trochanters provided with a few small concolorous spines; moderately incrassate fore femora with a row of small black-tipped spinules between each two of which is a smaller one; anterior tibia straight with a very short spongy fossa at apex; apex of posterior femora scarcely reaching to posterior margin of fourth abdominal segment. Length male 21 mm.

Type: Male Hyutanahan, Rio Purus Brazil, Mch., 1922; collected by S. M. Klages (Acc. No. 6963) Carnegie Museum.

This species is more closely related to *elongatus* but the shorter pronotum, more protuberant eyes, prominent acute angles of connexival segments and the long attenuated posterior angles of the sixth abdominal segment will serve to distinguish it.

#### KEY TO SPECIES OF CTENOTRACHELUS STÅL.

1. Lateral margins of pronotum provided with a row of small setigerous spines; legs setulose.....2  
     Lateral margins of pronotum unarmed.....4
2. Pronotum over twice as long as entire head; eyes not strongly protruding; basal segment of antenna three times as long as pre-ocular margin of head; anterior femora lightly incrassate, about as long as pronotum.....*setulosus* n. sp.  
     Pronotum less than twice as long as head; eyes strongly protruding; anterior femora strongly incrassate, shorter than pronotum .....3
3. Basal segment of antenna twice as long as pre-ocular margin of head; pre-ocular and post-ocular margins equal; anterior lobe of pronotum one-third longer than posterior one. Length 18 mm. .... *mexicanus* Champ.  
     Basal segment of antenna three times as long as pre-ocular margin of head; post-ocular margin of head longer than pre-ocular; anterior lobe of pronotum but one-sixth longer than posterior lobe. Small species, 14 mm. .... *minor* n. sp.
4. Post-ocular margin of head to collum plainly longer than pre-ocular margin to apex of antenniferous tubercles .....5  
     Post-ocular and pre-ocular margins of head nearly equal or the former shorter than the latter.....9
5. Abdomen elongate; apex of membrane not reaching or scarcely surpassing apex of fifth abdominal segment. Larger species; 21-22 mm. ....6

Abdomen shorter; apex of membrane reaching to or beyond middle of sixth abdominal segment. Smaller species; 15-16 mm. ....8

6. Pronotum twice as long as wide; sixth abdominal segment ending in two acute triangular lobes, not attenuated; eyes not strongly protruding .....**elongatus** n. sp.

Pronotum not twice as long as wide; sixth abdominal segment not as above; eyes strongly protruding .....7

7. Pronotum at least twice as long as head; post-ocular margin of head not twice as long pre-ocular; sixth abdominal segment ending in two broadly rounded lobes; anterior femora much longer than tibia, somewhat longer than pronotum.

.....**lobatus** n. sp.

Pronotum evidently not twice as long as head; post-ocular twice as long as pre-ocular margin of head; sixth abdominal segment ending in two rather long, attenuated, slender lobes; anterior femora but little longer than tibia, equal to pronotum in length .....**acutus** n. sp.

8. Pronotum twice as long as head, the former over twice as long as wide; post-ocular twice as long as pre-ocular margin of head .....**macilentus** Stål

Pronotum not nearly twice as long as head, the former not twice as long as wide; post-ocular margin of head not twice as long as pre-ocular .....**shermani** n. sp.

9. Pre-ocular margin of head one-third longer than post-ocular; basal segment of antenna twice as long as pre-ocular margin of head; first two ventral abdominal segments carinate.

.....**striatus** n. sp.

Pre- and post-ocular margins of head nearly equal; first four segments of ventral abdominal segments carinate .....10

10. Head behind eyes armed with three simple spines; not spinulose before eyes; basal segment of antenna twice as long as pre-ocular margin of head; non-infuscated species.

.....**testaceus** n. sp.

Head behind eyes armed with four simple spines; spinulose before eyes; basal segment of antenna over twice as long as pre-ocular margin of head; heavily infuscated species.

.....**infuscatus** n. sp.

*Stenopoda* Laporte.

(Type *cinerea* Lap. 1832.)

Characters: Body elongate; head subequal to pronotum in length; pre-ocular much longer than post-ocular part;

eyes strongly protruding; anteriorly between antenniferous tubercles armed with two acute processes (jugae); behind eyes below armed with several simple setigerous spinules; ocelli lightly elevated; first segment of antenna as long or longer than head; rostrum strongly incrassate, basal segment shorter than second and third united; anterior angles of pronotum acute or spinose; humeral angles acute and often spinose; two median dorsal carinae posteriorly more or less elevated; prosternal spines long, acute; anterior femora not strongly incrassate, armed below with numerous spinules and setae; anterior tibia as long as femur with a long spongy fossa at apex; posterior femora in the male reaching to or surpassing the apex of abdomen; venter of abdomen carinate; apex of membrane acute.

Stål, 1859, was in error concerning absence of spongy fossa on the anterior tibia. They are very distinct in both species here enumerated. I have not been able to recognize Distant's species *scutellatus* described from Ecuador.

*Stenopoda cinerea* Laporte.

(= *culiciformis* Fab.).

This is smaller than the following species, measuring 20–22 mm. long. First segment of the antenna is about as long as entire head, the latter, seen from above, is twice as long as wide across the eyes; the pronotum is as long as head and somewhat wider than long; dorsal carinae of posterior lobe but little elevated; abdomen of male is not parallel sided throughout, the two margins gradually converging from apex of fourth segment, also this part of the body seen from above is less than twice as long as head and thorax together; apical spongy fossa of anterior tibia occupying about one-fourth to one-third of its length. It is quite variable in the number of setae on the head, disk and lateral margins of pronotum as well as in the length of the hairs on the femora and tibiae.

Distribution: America (Fab.); Cuba (Laporte, Stål and others); Haiti, St. Vincent, Grenada in the West Indies, Panama and southern United States (Uhler); Mexico, Guatemala and Nicaragua (Champion). Specimens at hand show a very wide distribution from New York through all of the Eastern States, Mexico, Central America, most of the West Indies and in all of the South American countries as far south as Córdoba in the Argentine Republic.

*Stenopoda cana* Stål.(= *subinermis* Stål).

This is a large robust species measuring 25–27 mm. long. The elongate abdomen of the male is either parallel sided throughout or the lateral margins of the sixth segment may sometimes be somewhat converging; basal segment of antenna is usually a little longer than the head; the head and pronotum together being less than half as long as the abdomen; apical spongy fossa of anterior tibia occupying at least half of its length. It varies in the acuteness of the humeral angles of pronotum as well as in the height of the dorsal carinae of the posterior lobe although these are usually strongly elevated. If I have diagnosed Stål's *subinermis* correctly I would place it as a synonym of this species rather than of *cinerea* where it was placed by Champion. Stål in 1859 remarked that it was closely allied to *cana*.

Distribution: Brazil (Stål); Demonti, Oyapock R., Fr. Guiana (Carnegie Mus.); Kartabo, Br. Guiana (Van Duzee Coll.); Moengo, Boven Cottica R., Surinam (Cornell Coll.); Hyutanahan and Nova Olinda, also Rio Janeiro, Brazil (Carnegie Mus.); San Paulo, Brazil (my coll.); Prov. del Sara and Sta. Cruz de la Sierra, Bolivia (Carnegie Mus.); Coroico, Bolivia (my coll.).

*Stenopodessa* n. gen.

Closely related to and having much the general appearance of *Stenopoda cinerea* but with quite distinct structural characters. Body, antennae and legs long setose. Head shorter than pronotum; pre-ocular much longer than post-ocular margin, the latter gently rounded to collum; eyes very strongly projecting, setose; laterally behind eyes armed with several distinct, simple, setigerous spines; ocelli large and strongly elevated; antenniferous tubercles outwardly spined; jugae strongly divaricate; basal segment of antenna as long or a little longer than head, provided with a number of setose spinules, especially below; second segment densely pilose, over one-third longer than first; third one-third shorter than fourth segment; basal segment of rostrum somewhat longer than second. Pronotum including lateral spines wider than long; anterior lobe a little longer than posterior one, the latter sericeous and strongly bicarinate; lateral margins provided with setose spinules; posterior margin strongly depressed. Scutellum longer than wide with lateral margins calloused, setose; a rounded semi-erect tubercle at apex. Corium setose on some of the veins and lateral margin.



Membrane with posterior inner margin sinuate; apex acute. Apical angles of connexival segments spinose; lateral margin between these setose. Metasternum and venter strongly carinate in the middle. Legs much as in *Stenopoda*; anterior femora little incrassate, armed below with a series of small spines, setose between these; anterior tibiae without spongy fossa; anterior tarsi distinctly three segmented.

Type: *Stenopodessa piligera* n. sp.

***Stenopodessa piligera* n. sp.**

Stramineous-testaceous, sparsely sericeous; head, pronotum, antennae and legs long pilose. Head about one-third longer than wide; eyes strongly projecting, globose, long setose; pre-ocular margin to apex of antenniferous tubercles, seen from above, two-fifths longer than post-ocular margin, the latter gradually contracted posteriorly and furnished with four or five setigerous spines; antenniferous tubercles furnished with a distinct, blunt, setigerous spine; ocelli large, strongly elevated; the two anterior processes (jugae) strongly diverging, acute at apices; lateral margins before eyes with numerous setigerous spines as well as long hairs, the latter much longer than diameter of an eye; basal segment of antenna but little longer than head, very long pilose and armed below with a row of 9-10 small setigerous tubercles; second segment almost one-third longer than basal, also long pilose; third segment much shorter than fourth; rostrum with basal segment one-third longer than second, the latter subequal to third; pronotum somewhat longer than wide with the transverse dorsal impression just before the middle; disk of anterior lobe with long setae set on short spines; longitudinally canaliculate from the middle point to the transverse stricture; anterior angles armed with a stout, oblique, acute, setigerous tooth; lateral margins with 4-5 nearly cylindrical spines each tipped with a long seta, the one before the transverse stricture much stouter; posterior lobe sericeous, sparsely setose, the two longitudinal carinae posteriorly strongly elevated into acute tubercles or spines; between these with a less distinct ridge which does not reach posterior margin; lateral margin and sides of propleura with a few setigerous spines; posterior angles armed with a stout spine, tipped with several setae; posterior margin before the scutellum depressed, strongly concave; prosternal spine long, armed below with small setigerous spinules; scutellum sericeous, much longer than wide, lateral margins calloused, long setose, with a rounded reflexed tubercle at apex;

hemelytra faintly mottled with fuscous, somewhat sericeous and sparsely setose, the margins anteriorly setose; the discal cell of corium with the inner half infuscated; outer discal cell of the membrane inwardly with a fuscous stria followed by a similar streak outwardly; acute apex of the membrane nearly reaching apex of abdomen; lateral margin of abdomen with a short spine at the apical angles of segments 1-5, between each of which are several spinules tipped with setae; venter of the abdomen sparsely pilose with a broad longitudinal irregular fuscous band on either side; carinate down the middle; sixth segment with lateral margins nearly parallel, gently converging posteriorly to the obtusely rounded apical angles; posterior margin setose; lateral lobes scarcely extended, broadly truncate in the middle; the character of the legs is much the same as in *Stenopoda* but long setose; anterior femora armed beneath with 9-10 short spines with several setose spinules between these; intermediate femora with a series of small setigerous spines beneath; anterior tarsus with terminal segment equal to first two united. Length male 24 mm. Diameter of pronotum 5 mm.

Type: Male, Matto Grosso, Brazil, Dec. 6-10, 1919 (Cornell Univ.). Paratypes: Five males, Prov. del Sara, Bolivia, Nov. 1913; coll. by Steinbach (Acc. No. 5068, Carnegie Mus.).

*Seridentus* Osborn 1904

(Type *denticulatus* Osborn)

Characters: Body elongate. Head, including collum, somewhat shorter than pronotum and little longer than wide; eyes strongly projecting, set midway between base and apex; ocelli somewhat elevated; antenniferous tubercles very short and apically spined; the two anterior processes (jugae) prominent, somewhat elevated; tylus vertical; post-ocular part of head gradually narrowed from eyes to collum and armed below with several simple spines. Basal segment of antenna longer than head, with the second segment a little longer than basal. Genae anteriorly produced in a short obtuse, porrect spine at base of rostrum; the latter with basal segment a little shorter than the second and third together. Pronotum decidedly longer than wide, gradually widened posteriorly from the base, scarcely constricted laterally; disk of anterior lobe longitudinally sulcate from behind the middle point; anterior angles not spinose; humeral angles obtusely rounded, not at all prominent. Scutellum much longer than wide, provided with a stout

tubercle at apex; postscutellum armed with a smaller tubercle. Corium with a large pentagonal discal cell. Inner margin of membrane gently sinuate before obtusely rounded apex. The connexival margins of abdomen slightly visible from above, nearly parallel to each other; the apical angles of all abdominal segments somewhat prominent with apical angles of the sixth ending in two flaring lobes between which is a broad shallow obtuse sinus. Anterior coxae somewhat elongate; trochanters not spinose; femora lightly incrassate, armed below with a few small spines, very finely denticulate between these; tibia as long as femur with a short spongy fossa at apex; anterior tarsi with three distinct segments, claws widely divaricate. Venter with the first two segments longitudinally carinate.

*Seridentus* is closely related to *Schumannia* Champion from which it differs chiefly as follows: relatively broader and shorter head, unarmed before the eyes below; relatively longer basal segment of antenna, about as long as second segment and long pilose, third and fourth segment not capillaceous; ocelli more elevated; shorter basal segment of rostrum; shorter legs with anterior femora less spinose beneath, trochanters unarmed; second and third segment of anterior tarsus not fused.

*Seridentus denticulatus* Osborn

Sparsely pilose. Head except anteriorly, pronotum for the most part, scutellum, clavus except for three pale spots, corium and membrane in part irregularly, extreme apical angles of connexival segments, sixth dorsal segment of abdomen in great part, central median ventral stripe and irroration on each side of abdomen, a longitudinal stripe on the pleura, fuscous. Central area of the corium and inner area of the membrane whitish spotted with brown. Pleura, venter, legs and antennae stramineous, the latter with apex of basal and all of second segment embrowned.

Head about one-third shorter than pronotum and two-sevenths longer than width across eyes; gradually contracted behind eyes; eyes strongly projecting, globose and sparsely, finely pilose. Somewhat elevated ocelli large, a little further apart than each is removed from eyes. Two anterior processes (jugae) almost erect, united at base, not very acute at apices. Antenniferous tubercles outwardly armed with a short stout spine. Below before eyes with a few minute setigerous tubercles; behind eyes with four long setigerous spines. Basal segment of antenna a little longer

than head, densely long pilose; second segment embrowned, almost as long as basal and also densely long pilose; third segment almost one-third as long as second and fully one-third longer than apical one; the last two not much more slender than the second. Basal segment of rostrum a little shorter than the second and third segments united. Anterior acetabula dilated and armed with a few spines on anterior margin; prosternal spines black, porrect, well developed. Anterior trochanters almost or quite devoid of spines; anterior femur moderately incrassate, almost two and one-half times as wide as tibia, below armed with five or six short spines as an inner series, and with an outer row of numerous very minute spinules; anterior tibia straight, not shorter than femur, provided at apex with a short oval spongy fossa; anterior tarsus long; first and second segment fuscous, together a little shorter than apical segment; posterior femora not extended beyond apex of fourth abdominal segment. Pronotum considerably longer than wide; with anterior sparsely pilose lobe a little longer than posterior one; canaliculate from just behind the middle, continued on the anterior part of posterior lobe as a broad shallow depression; transversely depressed behind anterior margin, the anterior angles unarmed; the lateral margins with a row of setigerous tubercles or spines; disk of posterior lobe on either side provided with small tubercles; humeral angles rounded; posterior margin lightly concave before base of scutellum. Scutellum with a stout, long erect tubercle at apex; post-scutellum with a much smaller tubercle. Discal cell of corium large. Membrane somewhat sinuated before rounded apex which reaches just past apex of fifth segment of abdomen. Lateral margins fairly parallel to each other, finely serrate and shortly setose along the edge. Connexivum narrowly visible from beginning of the second segment, the apical angles of the segments ending in short acute spines, angles of the fourth and fifth more produced; posterior lateral angles produced into two broad, flaring lobes, acute at apex, with a broad, shallowly arcuate sinus between these. Ventral segments plainly carinate in the middle, the third more faintly so; each segment midway between median line and lateral margin with a distinct sunken black glandular oval spot. Length of male 21 mm.

Records:—Demerara, V, 6, 1901. Coll. by R. G. Crew. Paratype in the collection of E. P. Van Duzee which he has kindly loaned to me for study.



**Seridentus consimilis** n. sp.

Male. Stramineous; posterior margin of pronotum on either side of middle, narrow central line of the middle, as well as the apical and post-scutellar spine, maculations of connexivum and dorsal aspect of sixth abdominal segment fuscous; hemielytra sordid white much irrorate with pale brown; an elongate brown spot in the outer discal cell of the membrane contiguous to the outer vein; the membrane in part white; antennae sordid stramineous, basal segment suffused with brown, second segment with a median and apical fuscous band, last two segments infuscated; prosternal spine, prosternum, meso- and metasternum with a continuous, broad, longitudinal, fuscous stripe; venter irregularly, heavily irrorate with fuscous; anterior coxae, trochanters below and base of femora fuscous, remainder of anterior femora irregularly and faintly spotted with fuscous; all tibia with a premedian and apical fuscous band.

Very closely related to *S. denticulatus*. Head behind eyes more swollen, evidently wider than before eyes; below, behind eyes armed with three simple setigerous spines; the very acute jugae nearly porrect, separated at base; antenniferous tubercles outwardly armed with a small black spine. Basal segment of antenna as long as head, measured from apex of antenniferous tubercles to beginning of collum, provided with a few fine setae and short hairs, not long pilose within; second segment almost twice as long as basal, provided with short hairs scarcely longer than diameter of the segment; third and fourth segments nearly equal, together as long as basal, finely shortly pilose, anterior trochanters armed with one or two small spinules; fore femora setose, anteriorly projecting beyond the apex of basal segment of antenna; armed below with a row of 6-7 small spines, between which are several small setigerous spinules; anterior tibia slightly curved, shortly setose outwardly, shortly pilose within; anterior tarsi with the two basal segments black, these together nearly one-half as long as terminal one. Pronotum over twice as long as head from apex of antenniferous tubercles to beginning of collum, just over one-third longer than wide; finely pilose; lateral margins not provided with a row of small spines as in *denticulatus*; prosternal spine long, very acute, porrect, projecting anteriorly beyond posterior margin of eyes; rim of acetabulum spinose; lateral margins of the prosternal groove provided with a row of small black spinules. Scutellum armed at apex with a rather long, blunt, semi-erect spine; post-scutellum with a prominent, erect,

blunt spine or tubercle which is constricted basally, nearly as long as scutellar spine. Apical angles of all connexival segments 1 to 5 provided with acute nearly erect, black spines as in *denticulatus*; lateral margins between these with a row of black, setigerous spinules directed obliquely backwards; sixth abdominal segment much as in *denticulatus* except that the lateral posterior angles are not quite so flaring. Length: Male 20 mm.

Type: Male; Pied Oyapok River, French Guiana, Dec. 1917. Collected by S. M. Klages (Acc. No. 6111 Carnegie Museum).

This species can be differentiated from *denticulatus* by its paler color, more swollen post-ocular region of the head, different character of the jugae, shorter basal segment of antenna as well as different pilosity, longer pronotum with mutic lateral margins, longer prosternal spines and post-scutellar tubercle, etc.

*Achillas* Bueno 1914.  
(Type *bicaudatus* Bueno.)

Head over one-half as long as pronotum; eyes strongly protruding; pre-ocular shorter than post-ocular margin; the latter not parallel sided but gently rounded, converging posteriorly; spined laterally and dorsally; ocelli large; antenniferous tubercles, externally spined; jugae well developed, porrect; genae anteriorly provided with a porrect spine at base of rostrum. Basal segment of antenna a little shorter than entire head; the second segment somewhat longer than first; third and fourth subequal. Basal segment of rostrum shorter than second and third united. Pronotum a little longer than wide, rather deeply constricted laterally and dorsally; the two lobes nearly equal in length; lateral margins spinose; the central disk of anterior lobe longitudinally canaliculate behind the anterior transverse depression; anterior angles with a small tubercle externally; humeral angles rounded. Anterior acetabula dilated and spined along the edge; trochanters with a few spines; anterior femora lightly incrassate, long pilose and spined above, with a row of stout spines below; anterior tibia as long as femur, with an oval spongy fossa at apex; anterior tarsus with three distinct segments. Scutellum with a stout tubercle at apex; postscutellum also with a tubercle. Hemelytra with a large discal cell; apex of membrane reaching middle of 6th abdominal segment. Lateral margins of abdomen near the posterior angles of segments 2-5 provided with spined foliaceous lobes; apical angles of the sixth produced in two

long, very acute processes with a broad sinus between. First three segments of the venter longitudinally carinate.

*Achillas bicaudatus* Bueno.

Color stramineous; head dorsally lightly embrowned; basal segment of antenna with a central band, the second segment with a slight basal, median and apical band, pronotum through central disk, base of femora below and apex of clavus fuscous; hemielytra including outer fourth of membrane heavily, the remainder of membrane much more lightly, mottled with fuscous. Head dorsally provided with short spines, these becoming longer posteriorly; pre-ocular margin to base of antenna short, less than one-half the length of eye, apically with a distinct oblique spine externally on the antenniferous tubercles; eyes strongly bulging, finely setose; ocelli rather large, twice as far apart as each from the eyes; post-ocular margins converging from the eyes to collum; behind eyes latero-ventrally with two or three simple spines; ventrally with four pairs of setigerous spines, posterior pair the longest; pre-genal tooth at base of rostrum obtuse. Basal segment of antenna long pilose, externally with five or six short spines; almost as long as head to beginning of collum; second segment long pilose, a little longer than first; third and fourth subequal, pilose. Basal segment of rostrum decidedly shorter than second and third united. Pronotum with a marginal row of unequal, irregular spines; deeply transversely constricted across the middle; anterior angles externally with a small tubercle; strongly depressed behind anterior margin, with a sharply defined canal running from this to the transverse stricture; disk on either side of canal with a series of small spines, area between these and margin smooth; posterior lobe longitudinally, shallowly, broadly depressed in the middle; the somewhat elevated ridges on either side, provided with small spines; strongly depressed within the humeral angles which are obtusely rounded. Prosternal processes well developed, acute, somewhat deflexed and provided with a tooth or spine near base. Anterior femora pilose armed below with six or seven stout spines and above with a crowded series of unequal spines; tibia as long as femur with a distinct oval spongy fossa at apex. Scutellum with short setigerous spines on the disk and apex armed with a stout blunt tubercle; postscutellum with a short, acute, black, erect tubercle. Lateral margin of abdomen provided with four foliaceous lobes, toothed along their margins, between these two or three short spines on the margins of segments; sixth segment ending in two

long, attenuated, acute processes, reflexed; distinctly setose-spined along their inner margins; a broad rounded sinus between these, with the genital segment slightly visible from above. Length 25 mm.

Described from the type: Tumatumari, Rio Potaro, Brit. Guiana in the Coll. of J. R. de la Torre-Bueno.

As remarked by Mr. Bueno this genus is closely related to *Seridentus* of Osborn from which it differs particularly in the character of the abdominal margins.

*Apronius* Stål 1865.

(Type *rapax* Stål.)

Body somewhat elongate; head longer than wide; somewhat or decidedly shorter than pronotum; pre-genal spines at base of rostrum lacking; eyes strongly projecting, glabrous; lateral margins behind eyes not parallel but gradually converging towards collum; ventro-laterally behind eyes sometimes armed with a few very small scattered setigerous spines; ventrally between the eyes armed with two to four pairs of setigerous spines; ocelli very little elevated; jugae short; antenna with basal segment shorter than head; basal segment of rostrum shorter than the two apical ones taken together, first and second nearly equal. Pronotum nearly as wide as long (a little longer than wide in *octonotatus*); shallowly, transversely depressed through the middle; humeral angles acute. Scutellum longer than wide, with slender porrect apex. Membrane acute or subacute at apex which reaches nearly to end of abdomen. Connexival margins of abdomen lightly expanded. Anterior trochanters spined; anterior femora moderately incrassate armed with a series of small spines; anterior tibia with elongate spongy fossa at apex; anterior tarsi composed of three distinct segments. Venter strongly carinate through the middle.

*Apronius* is somewhat related to *Oncocephalus*.

*Apronius rapax* Stål

Color flavous, in part rather heavily infuscated. Head fuscous, in well marked specimens with two longitudinal pale stripes anteriorly on either side of middle running to the transverse stricture; behind each eye with a diagonal pale stripe running to collum; basal segment of antenna infuscated, often paler through the middle; pronotum more or less infuscated but pale before the posterior margin; scutellum laterally and apically pale; hemielytra infuscated



mottled with pale, veins of corium and membrane pale; a small black spot on the corium opposite apex of scutellum, often missing, also one in the outer discal cell of membrane; a wide continuous band on the pleura and faint mottling of venter fuscous; legs flavous, femora mottled with fuscous, anterior tibia with three and intermediate with two fuscous bands.

Head one-fifth shorter than pronotum; pre-ocular margin to apex of antenniferous tubercles subequal to post-ocular; eyes strongly projecting, dorsally equal in width to inter-ocular space; behind eyes armed with several small irregular setigerous tubercles; ventrally between the eyes with two pairs of prominent setigerous spines, sometimes followed by a pair of minute spines. Basal segment of antenna very nearly three times as long as pre-ocular margin to apex of antenniferous tubercles; second segment over twice as long as first; third and fourth subequal. Basal segment of rostrum a little longer than second. Pronotum a little wider than long; posterior lobe distinctly rugulose and with two median carinae more evident anteriorly, disappearing just before posterior margin; lateral margin before transverse stricture provided with a more or less evident tubercle; humeral angles acute, somewhat projecting. Scutellum with a rather slender, horizontal process at apex. Membrane acute at apex. Anterior femora armed with a row of small spines between which are short setae. Spongy fossa of anterior tibia a little longer than tarsus. Length, male 17 mm.; female 20 mm.

Distribution: Minas Geraes, Brazil (Stål); Napo R., Peru and Manaos, Brazil (Fracker and Bruner); Rio Janeiro and Chapada, Brazil (Carnegie Mus.); Rio Dagua, Colombia and Canal Zone (U. S. N. M.).

#### *Apronius flavidus* n. sp.

Color yellow-testaceous. Head longitudinally through the center and laterally before and behind the eyes infuscated; basal segment of antenna very lightly embrowned; pronotum transversely behind anterior margin, middle line of anterior lobe and pleura lightly infuscated; hemielytra very lightly and obscurely mottled with fuscous; corium with a small fuscous spot opposite apex of scutellum; membrane concolorous with a small spot in the center of the outer discal cell; venter mottled with fuscous on either side of middle; femora faintly mottled with fuscous; anterior and intermediate tibia with three bands.

Head much shorter than pronotum; pre- and post-ocular margins equally long; eyes strongly projecting, with the inter-ocular space much wider than diameter of an eye, seen from above; behind eyes armed with several small setigerous tubercles; ventrally between eyes with two pairs of prominent setigerous spines. Basal segment of antenna about three times as long as pre-ocular margin to apex of antenniferous tubercles; second segment a little over one-fourth longer than first; third segment nearly twice as long as fourth. Basal segment of rostrum subequal to second. Pronotum a little wider than long; posterior lobe covered with little asperities, not rugulose, scarcely at all bicarinate as it is in *rapax*; humeral angles prominent, acute. Scutellum with apical horizontal process short. Apex of membrane narrowly rounded or sometimes subacute. Legs as in *rapax*. Length male 18 mm.; female 21 mm.

Type: Male and allotype, Rio Janeiro, Brazil. Paratypes: 2 males and 3 females, same locality as type (U. S. N. M.); 4 males and 3 females same locality as above (Acc. 2966 Carnegie Mus.).

This species is so closely related to *rapax* that there is very little in Stål's description to guide one in deciding which of the two is his species. The species here described as new is quite different in coloration; the interocular space of head is wider, the relative lengths of the antennal segments is quite different and the surface of posterior lobe is not so evidently bicarinate and is unwrinkled.

*Apronius octonotatus* Champion 1898.

Well characterized by Champion in the Biol. Cent. Amer. Rhynch. II, p. 186, 1898, and figured on Tab. XI, fig. 22, 22a. This species is considerably smaller than the two preceding and differently marked. The head beneath has four pairs in place of two pairs of setigerous spines, the first and fourth pairs being much shorter. The pronotum is also less depressed across the middle and decidedly longer than wide.

Records: Bugaba, Volcan de Chiriqui, Panama (Champion); 4 specimens from Panama and one from Brit. Guiana (U. S. N. M.); one female Demerara Brit. Guiana, coll. by R. J. Crew in the collection of E. P. Van Duzee.

#### **Kodormus** n. gen.

Body rather broad and somewhat depressed. Head granulose, a little shorter than pronotum with pre-ocular part twice as long as post-ocular; the former much the nar-

rowest; the latter rather abruptly rounded, contracted toward base and armed below behind eyes with two stout ramose spines or processes; ventrally before eyes with two sub-acute tubercles and another pair before base; antenniferous tubercles armed with a stout spine or tubercle at apex; anteriorly between bases of tubercles armed with two divaricate sub-acute tubercles (jugae), tylus strongly depressed. Eyes very strongly protruding, slightly transverse and extending somewhat on the lower surface of head. Ocelli large, strongly elevated. Basal segment of antenna short, second segment much longer than first. Genae not anteriorly produced in a porrect spine at base of rostrum; the latter strongly incrassate with basal segment not extended beyond anterior margin of eyes, decidedly shorter than second and third taken together. Pronotum with anterior angles prominent, shortly spinose; granulate, wider than long, obtusely constricted just before the middle; anterior lobe longitudinally sulcate behind the middle point; lateral margin with a row of small setose tubercles, disk on either side of the middle provided with a blunt tubercle; humeral angles rather acutely prominent. Prosternal spines short. Scutellum slightly longer than wide with a short, erect tubercle at apex; post-scutellum also with a small tubercle anteriorly. Discal cell of corium longer than wide and with the transverse apical vein not distinct. Rounded apex of the membrane reaching well past the middle of the sixth abdominal segment of abdomen. Abdomen flaring; apical angles of the abdominal segments 1-3 prominent, the fourth segment widest, strongly angulated behind middle. Legs rather long, anterior coxae and trochanters armed with a few stout tubercles; anterior femora rather strongly incrassate, spinulose beneath; anterior tibia curved about as long as the femur and without a spongy fossa at apex; all tibiae compressed; apex of posterior femora not quite reaching apex of abdomen. Venter strongly carinate longitudinally to apex of the fifth segment.

This genus has no close affinity to any other genus of the sub-family but appears to come close to *Rhyparoclopius* Stål in the broader character of the body. Type **bruneosus** n. sp.

**Kodormus bruneosus** n. sp.

Color castaneous brown; with antennae, anterior tibiae and venter paler; a sordid white orbicular spot near the center of the outer apical cell of the membrane; anterior

femora, intermediate and posterior legs and connexivum infuscated. Body in part distinctly granulose, non-pilose. Head with collum about one-third longer than width across eyes and but little shorter than pronotum; surface covered with fine granules tipped with minute recumbent hairs. Eyes finely, sparsely pilose, very strongly projecting, their diameter about one fourth less than inter-ocular space. Pre-ocular part of head one third longer than post-ocular including collum and considerably narrower; from eyes abruptly, roundly contracted and armed ventro-laterally with two rather large setigerous ramose spines or processes, placed one above the other; base with a small setigerous tubercle on each side of the middle. Ocelli large, strongly elevated, sulcate between, about as far apart as each is removed from the eyes. Antenniferous tubercles very short and outwardly armed with short setigerous tubercles at their apices. Anteriorly, between and before these are two acute, divaricate processes (jugae), fused at their bases; the tylus much deflexed and extended before these. Ventrally, before eyes with a distinct setigerous tubercle on either side of the middle, preceded by several smaller ones, another pair before base. Genae not anteriorly produced in a process at base of rostrum. Basal segment of antenna somewhat incrassate, short, extending a little beyond apex of head, about twice as long as the pre-ocular margin, second segment densely long pilose nearly three times as long as first; third and fourth very slender, pilose, subequal. Rostrum strongly incrassate, apex of basal segment extending as far as anterior margin of eyes, subequal to second segment, the third about one-half the length of second. Pronotum about one fourth wider than long, not laterally constricted; anterior lobe a little shorter than posterior one; disk of anterior lobe somewhat convex, with irregular smooth areas interspersed with distinct granules particularly in front; longitudinally deeply sulcate from the middle point; central disk on each side with a somewhat elevated granulated tubercle; anterior margin depressed, constricted laterally; anterior angles truncate and armed with a short subacute spine outwardly; lateral margins with a single series of small, pale tubercles (granules) beset with short recurved hairs. Posterior lobe somewhat granulose, anteriorly with a short, deep longitudinal sulcation, continued from anterior lobe; longitudinal ridges on each side of this not strongly elevated; humeral angles acutely prominent; posterior margin before base of scutellum gently concave; prosternal spines, short porrect, above which is another



short marginal spine. Scutellum strongly elevated, apex armed with a small, erect, acute tubercle; post-scutellum depressed and anteriorly armed with a small, round, pale tubercle. Hemelytra with the corium entirely coriaceous, obsoletely granulose and provided with scattered, recumbent, fine hairs; discal cell twice as long as wide, the inner and outer veins strongly curved, the apical vein obsolete or missing. Bluntly rounded apex of the membrane reaching well past middle of sixth abdominal segment. Legs somewhat elongate finely hispid; anterior trochanters armed with a few stout, acute tubercles; anterior femora rather strongly incrassate, armed beneath with two series of widely separated short, acute tubercles; anterior tibia as long as the femur, gently curved throughout, somewhat compressed, without a spongy fossa at apex; the posterior femora and tibiae of equal length, apex of the former reaching nearly to middle of sixth abdominal segment; the tibiae compressed and gently curved; third segment of the posterior tarsus about as long as the first and second together; the tarsal claws widely divaricate. Abdomen with connexivum strongly expanded, gradually expanded to obtuse angles of fourth segment, thence strongly narrowed to the apex of sixth segment which is narrowly truncate; apical angles of first, second and third segment somewhat prominent. The venter irrorate with fuscous, longitudinally strongly carinate to apex of the fifth segment; surface with scattered minute recumbent hairs. Length 21 mm.

Type: Male, Cabima, Panama, May 26, 1911, coll. by A. Buseck (U. S. N. M.); Paratype: Female, Tumatumari, Brit. Guiana, July 12, 1921 (A. M. N. H.); Male, Bartica, Brit. Guiana (J. R. T.-Bueno).

*Rhyparoclopius* Stål 1868

(Type *desiccatus* A. and S.)

“Antennae short, first segment shorter than preocular part of head; head cylindrical or subcylindrical; legs rather short, posterior femora not reaching to apex of abdomen. Body and legs destitute of granules and spines; anterior trochanters and femora only beneath armed with spinules; body somewhat elongate; head and thorax almost equally long, the former cylindrical, beneath unarmed, apex devoid of a spine at base of rostrum; preocular part almost three times longer than postocular, the latter a little wider than former; eyes mediocre, somewhat transverse, scarcely sinuate posteriorly; antennae short, inserted towards apex of

head, first and second segments of rostrum nearly equally long, the former somewhat shorter than preocular part of head; thorax equally long as wide, anteriorly sinuate narrowed, in the middle very lightly, obtusely constricted; posterior lobe six angled, apex of lateral angles rounded; hemielytra reaching apex of abdomen, apex of membrane terminating in a less distinct angle; abdomen beyond middle sensibly amplified, lateral margin at apex of segments obtusely prominent; legs mediocre, anterior femora somewhat incrassate. Anterior tibia destitute of spongy fossa. Allied to genus *Podormus*." Stål.

I have two specimens before me of a new species which with considerable doubt I have placed in this genus. But not having been able to see specimens of either *desiccatus* A. and S. or *annulirostris* Stål I have quoted the above translated diagnosis from Stål, rather than base the characters on the new species.

#### *Rhyparoclopius dubius* n. sp.

Body and legs densely tomentose pilose, devoid of spinules and granules. Sordid grayish-brown; anterior and intermediate tibia indistinctly annulated with fuscous before base, in the middle and towards apex. Head almost as long as thorax, cylindrical, pre-ocular part not quite three times as long as post-ocular part; the latter a little wider than former; gula and post-ocular region below unarmed with spines; eyes moderately projecting, not transverse; ocelli small, not elevated, a little further apart than remote from eyes; antenniferous tubercles with a minute porrect spine, externally; two anterior processes (jugae) rather thick, subacute extending almost one-sixth way on the basal segment of antennae; no porrect spine or process at base of rostrum. Basal segment of antenna rather strongly incrassate, lightly curved, as long as preocular margin of head to base of antenna; second segment one third longer than basal one; third and fourth segments very slender with the latter much longer than former. Rostrum with basal segment much shorter than pre-ocular part of head, much shorter than second and third united, subequal to second. Pronotum as long as wide, transversely obtusely constricted just behind the middle; anterior lobe somewhat convex, posteriorly longitudinally canaliculate; the disk on either side with several irregular tomentose ridges, with narrow smooth areas between; the anterior angles armed with a small oblique tubercle externally; disk of posterior lobe

anteriorly with two low ridges, diverging posteriorly and gradually disappearing; strongly depressed within the humeral angles which are distinctly elevated but unarmed; posterior margin strongly declivous, sinuate before scutellum. Prosternum anteriorly somewhat dilated; the prosternal spines, stout, acute, porrect. Anterior trochanters with a few black spines beneath; anterior femora rather strongly incrassate, with a row of 10-12 small acute spinules below, with equally long, curved setae between these; anterior tibia a little shorter than femur, without a spongy fossa at apex; anterior tarsus short, with second and third segments fused into one; posterior coxae further apart than they are remote from lateral margins of the pleura; posterior femora not reaching to apex of abdomen. Scutellum somewhat longer than wide, depressed in the middle at base; rather suddenly contracted at middle, ending in a rather slender subacute apex. Hemelytra with some of the veins infuscated, claval vein posteriorly and neighboring vein of the discal cell pale yellow; discal cell twice as long as wide; the membrane sordid, somewhat paler than corium, with a broken, oblique, fuscous fascia, a portion in the outer middle part of the outer discal cell, the remainder just outside of the limiting external vein; just anterior to this a sordid white fascia; the rounded apex almost reaching the apex of abdomen. Abdomen considerably wider than the hemelytra; apical angles of the connexival segments 1-3 obtusely prominent, 4-5 more strongly obtusely angled; the sixth ending in two short rounded lobes with a broad rounded sinus between these. The venter longitudinally canaliculate through segments 1 to 5. Length of male 12.5 mm.; female 13.5 mm.

Type: Male, Santarem, Brazil (Coll. of H. H. Smith in the A. M. N. H.). Allotype, same data; paratype male, Taperina, Brazil (Acc. No. 2966 Carnegie Mus.).

This species is much smaller than *dessiccatus* Amy. et Serv. which measures 22 mm. and of *annulirostris* Stål which is 17 mm. long.

*Diaditus* Stål 1859

(Type *semicolon* Stål)

Body oblong. Head cylindrical, but little if any shorter than pronotum; pre-ocular somewhat longer than post-ocular margin; unarmed before or behind eyes below; base of head, dorsally with a subacute, posteriorly directed tubercle on

each side of the middle; antenniferous tubercles furnished externally with a minute spine; anteriorly between bases of antennae with two elongate porrect processes (jugae) well extended beyond apices of antenniferous tubercles. Ocelli strongly elevated. Eyes rather strongly protruding. Basal segment of antenna shorter than head. Basal segment of rostrum nearly equal to the second and third united. Legs slender, rather long; anterior femora scarcely incrassate, unarmed beneath; posterior pair not reaching to apex of abdomen; anterior tibia without a spongy fossa at apex. Abdomen a little wider than hemelytra.

*Diaditus pictipes* Champion

This is the smallest species of the genus thus far known. The head from apices of jugae is considerably shorter than pronotum, at least in the male; the pre-ocular margin to apex of antenniferous tubercles not twice as long as post-ocular margin; jugae one-seventh shorter than pre-ocular margin; the antennae are relatively short and very shortly pilose; the basal segment less than half the length of the head to tip of jugae; second segment about one-fourth longer than basal; third and fourth united nearly as long as second. The pronotum is a little wider than long with the humeral angles obtusely rounded. Ventral segments of the abdomen non-carinate in the female, obtusely and lightly carinate in the male. Length 8-8.5 mm.

Distribution: Mexico, Guatemala (Champion); Los Mochis, Sinaloa, Mexico (Coll. E. P. Van Duzee); Tapachula, Mex. (U. S. N. M.); Edinburg and Brownsville, Tex. (J. R. T.-B.); Alvin and Brownsville, Tex.; Morales, Guat. (author's coll.).

*Diaditus hirticornis* Champion

Male; head from apex of jugae as long as pronotum; pre-ocular margin to apex of antenniferous tubercles over twice as long as the post-ocular margin; jugae nearly as long as the pre-ocular margin, rather slender and acute; antennae relatively longer than in the preceding species; basal segment of antennae about one third shorter than length of head from apex of jugae; second segment about one third longer than basal and clothed with long, nearly erect hairs; second and third segments united much shorter than second. Pronotum is evidently wider than long with the humeral angles acute and somewhat reflexed. Ventral segments of the abdomen sharply keeled. Anterior tarsi distinctly three segmented. Length 9 mm.



Distribution: Panama (Champion); Canal Zone, Panama and Trinidad (U. S. N. M.); Zanderij, Boven, Para Dist., Dutch Guiana (Cornell.).

*Diaditus semicolon* Stål

Female; Head to tip of jugae a little longer than pronotum; pre-ocular margin to apex of antenniferous tubercles two-fifths longer than post-ocular margin; jugae longer than pre-ocular margin, stout, and contiguous at apices; basal segment of antenna less than half as long as head to apices of jugae; second segment very shortly and sparsely pilose one-third longer than basal; three and four united are as long as basal, much shorter than second. Pronotum very nearly as wide as long with humeral angles subacute. Anterior tarsi with 2 and 3 segments united into one; hind tibia shortly pilose. Length 12 mm.

Distribution: Montevideo, Uruguay (Stål), Argentine Rep. (Berg). Corumba, Matto Grosso, Brazil (Author's coll.); Bolivia (M. C. Z.); Bahia, Santarem, and Taperina, Brazil; Prov. del Sara and Sta. Cruz de la Sierra Bolivia (Carnegie Mus.); Para and Igaripe, Brazil (U. S. N. M.).

*Diaditus pilosicornis* Bergroth

If I am not mistaken in the identity of this species it is scarcely distinguished from *annulipes*. Before me are three male specimens from Demerara, British Guiana, type locality of Dr. Bergroth's species.

The head is evidently granulose and somewhat longer than the pronotum; as compared with *annulipes* the eyes are less projecting; antennae, rostrum and the two anterior processes (jugae) are quite similar the latter variable in relation to each other, gently curved towards apex where they are in contact or nearly so; the tibia are provided with three fuscous bands in place of two as in *annulipes*; the anterior angles of the pronotum are provided with a more pronounced acute spine; the posterior tibia are provided with very short setae, less than half as long as width of the tibia. Markings and other characters the same as in *annulipes*. Size 11.5-12 mm.

Distribution: Demerara (Bergroth). Mackenzie R., Demerara, Brit. Guiana (Cornell); Santarem, Brazil, and Sta. Cruz de la Sierra, Bolivia (Carnegie Mus.).

*Diaditus annulipes* Berg

Male: Head is distinctly granulose, one-third longer than diameter across eyes; the pre-ocular margin to apex of antenniferous tubercles not twice as long as post-ocular margin; the two anterior processes (jugae) a little longer than pre-ocular margin; basal segment of antenna almost twice as long as pre-ocular margin, second segment long pilose, almost twice as long as basal; third and fourth together but little shorter than basal segment. Pronotum a little longer than head but little wider than long; anterior angles armed with a distinct acute spine; posterior angles acute, somewhat reflexed; disk of posterior lobe with four distinct longitudinal carinae, the outer ones less obvious; hemielytra with the usual markings; edge of each connexival segment with two slight fuscous markings; abdomen with the venter longitudinally distinctly carinate; apical margin of the genital segment lightly sinuate in the middle; all tibia with base, apex and premedian band infuscated; the posterior tibia rather densely pilose, the hairs over twice as long as diameter of the tibia. Length 11.5–12 mm.

Distribution: Chacabuco, Argentine (Berg); Las Vazques, Tucuman, Argentina and Sapucay, Paraguay (U. S. N. M.); Cordoba, Argentina (M. C. Z.).

*Diaditus latulus* n. sp.

Color grayish testaceous; area between ocelli, rostrum, several obscure longitudinal fascia on the pronotum located on the sunken areas, two narrow longitudinal striae on the scutellum; mottling of the clavus, a streak on the disk of the corium opposite the commissure, the discal cell, outer cell of the membrane with a small prebasal followed by a broad elongate fascia, sinuate in front, edge of the connexivum with two fascia on each segment, pleura and venter laterally, irregularly, coxae and trochanter in part, femora for the most part and tibiae each with three bands, fuscous.

Finely granulose. Head of the male about one-fourth, of the female one-third longer than wide; pre-ocular margin to apex of antenniferous tubercles somewhat shorter than length of an eye, and nearly two-fifths longer than post-ocular margin; two anterior processes (jugae) rather short and stout, contiguous except at apices; extending about half their length beyond the apex of the antenniferous tubercles; antennae relatively short; basal segment less than half as

long as the pre-ocular margin; second segment in the male twice as long, in the male one-fifth longer than the basal one; third and fourth segments together as long as basal; long pilose in the male, shortly setose in the female; rostrum with the basal segment a little longer than second and third united; pronotum of male one-fifth longer than wide; anterior angles armed with a short acute spine; posterior angles of the male somewhat acute, obtusely rounded in the female; anterior lobe shorter than the distinctly granulose posterior lobe and distinctly separated by five depressions, the central one deepest; the longitudinal dorsal granulose carinae not as distinct as in the other species described; scutellum anteriorly in the middle very lightly sulcate; either side of the middle with deeper and nearly parallel sulci; apex of membrane in male reaching to end of abdomen; apical margin of genital segment rather deeply incised in the middle with a broad somewhat truncated lobe on each side; venter sharply carinate. Pile of posterior tibia a little longer than the diameter of the tibia. Length of male 12 mm.; female 13 mm.

Type: Male; San Juan, Argentine Rep. Coll. by C. S. Read (Cornell); Allotype same data. Paratype: male same data (head and thorax missing).

This species differs from *annulipes* by being broader with a shorter head and antennae as well as in the character of the two anterior processes.

#### KEY TO SPECIES OF DIADITUS

1. Second segment of antenna not long pilose or setose; second and third anterior tarsal segments almost fused into one.....2  
 Second segment of antenna finely long pilose; second and third anterior tarsal segments distinct .....4
2. Jugae very short, not reaching one-third way on basal segment of antenna; head short, not nearly twice as long as wide and decidedly shorter than pronotum; second segment of antenna but little longer than first; pronotum much wider than long; anterior femora reaching beyond apices of jugae .....*latulus* n. sp.  
 Jugae longer, nearly reaching to middle point of basal segment of antenna; head nearly or quite twice as long as wide and but little shorter than pronotum; second segment of antenna about one-third longer than first; pronotum but little wider than long; anterior femora not extending to apices of jugae.....3

3. Size small, 8 to 8.5 mm.; pronotum a little wider than long; jugae evidently shorter than pre-ocular margin of head, not reaching to middle point of basal segment of antenna ..... ♀ *pictipes* Champ.  
 Size larger, 12 mm.; jugae about as long as pre-ocular margin of head, reaching to middle point of basal segment of antenna; pronotum as long as wide ..... ♀ *semicolon* Stål
4. Second segment of antenna one-third longer than first; jugae slender, divergent; posterior lobe of pronotum with two divergent carinae ..... ♂ *hirticornis* Champ.  
 Second segment of antenna at least twice as long as first; jugae rarely divergent; posterior lobe of pronotum with two dorsal carinae on each side of the middle, the outer ones less distinct ..... 5
5. Entire head (dorsal view) from apices of jugae as long as pronotum and more nearly twice as long as wide; hind tibia with short, fine, appressed setae ..... ♂ *pilosicornis* Berg.  
 Entire head evidently shorter than pronotum, nearly one-third as wide as long; hind tibia with rather long, fine, oblique setae ..... ♂ *annulipes* Berg.

*Narvesus* Stål 1859(Type *N. carolinensis* Stål)

Head about as long as pronotum; eyes strongly projecting, globose; pre-ocular margin longer than post-ocular margin; anteriorly between antenniferous tubercles furnished with two short acute processes (jugae); post-ocular margin below armed with several obtuse spinules; ocelli strongly elevated; basal segment of antenna shorter than head. Rostrum not strongly incrassate; basal segment but little shorter than second; eyes closely approximate below. Pronotum nearly as wide as long; anterior angles spinose; humeral angles rather acute; lateral margins just before the shallow transverse depression furnished with a small tubercle. Anterior femur scarcely incrassate; armed below with a few small spines; posterior femora in the male surpassing the apex of abdomen. Abdomen a little wider than hemielytra. Venter strongly, acutely keeled. Closely related to *Onocephalus*.

*Narvesus carolinensis* Stål

Distribution: Carolina (Stål); St. Vincent and Grenada Is., W. Ind. (Uhler); Yucatan, Mexico (Champion). Specimens be-



fore me from Eden, Nicaragua (Acad. N. S. Phil.), Cuba and nearly all of the southern states from Virginia south to Florida and west to Missouri and Arizona. Specimens from the latter state are paler than more eastern forms.

**Narvesus minor** n. sp.

Pale grayish-cinereous; two longitudinal striae on the head anteriorly, area between ocelli and extending to base of head, sides of head before and behind eyes, rostrum, depressions of pronotum obscurely, lateral margin of propleura, scutellum either side of the middle line, a slight streak in the middle of the clavus, an obscure elongate triangular fascia on the disk of corium, the discal cell, an elongate subtriangular fascia sinuate anteriorly on the outer cell of the membrane preceded on the anterior margin by a small orbicular spot, connexival margins of abdomen with two elongate streaks on each segment sometimes merged, meso- and metapleura with two irregular streaks, venter with a line on each side of the middle, mottling of fore femora, apices of the intermediate and posterior pairs, fore and intermediate tibiae with bases, apices and middle, base and apex of the posterior tibia infuscated.

Male: Very closely related to *N. carolinensis* but somewhat smaller with the head relatively a little longer in relation to its diameter; the pre-ocular margin to apex of antenniferous tubercles relatively longer in relation to the post-ocular margin; all of the segments of the antenna rather long pilose, the first and second segments pale; the anterior and intermediate tibia not trifasciate with fuscous, the posterior tibia with shorter pile than in *carolinensis*.

Female: Coloration much the same except the connexivum and exposed part of the abdomen is infuscated. The pre-ocular margin of the head relatively longer than in the male; the eyes less bulging; the second segment of the antenna not long pilose; apices of posterior femora not reaching apex of abdomen; anterior femora somewhat more incrassate than in the male. Length, male, 11.5; female, 14 mm.

Type: Male, Moengo, Boven Cottica R., Dutch Guiana, May 14, 1927; Allotype: Same data, May 13; Paratypes: 13 males and 1 female, same data as type; 2 males Tumatumari, Potaro R., Brit. Guiana, June, 1927; 1 female Corumba, Matto Grosso, Brazil, Dec., 1919 (Cornell Univ.); male, Tumatumari, British Guiana (A. M. N. H.); Puerto Suarez, Bolivia (Acc. No. 3845 Carnegie Mus.).

## KEY TO SPECIES OF NARVESUS

- Anterior and intermediate tibia trifasciate with fuscous; posterior tibiae shortly pilose; pronotum scarcely wider than long. Smaller species from South Amer.; male 11.5 mm. .... *minor* n. sp.
- Anterior and intermediate tibia not trifasciate with fuscous; posterior tibiae long pilose; pronotum decidedly wider than long. Larger species from U. S., Mex., C. Amer. and W. Ind.; male 14 mm. .... *carolinensis* Stål

*Oncocephalus* Klug 1830(Type *notatus* Klug)

Body rather elongate-oval; eyes of male large, of female smaller, set rather close together beneath; several rather distinct setigerous tubercles behind eyes; ocelli somewhat elevated; antennae and tibiae particularly in the male often long pilose; jugae somewhat produced and lightly elevated; apex of genae not produced; basal segment of rostrum shorter than the two apical ones united; anterior femora distinctly, strongly incrassate, and distinctly spinose beneath; hemielytra of the female sometimes abbreviated.

This genus is very closely related to *Narvesus* from which it may readily be distinguished by its strongly incrassate, spinose anterior femora. *O. ventralis* Walker, described from San Domingo, I have not been able to distinguish.

*Oncocephalus geniculatus* Stål

Male: Cinereous-gray. Head decidedly shorter than pronotum, the latter about one-sixth wider than long; the eyes below are about as far apart as the diameter of the second segment of the rostrum at the middle point; first segment of antenna nearly glabrous, 1.5 mm. long, second segment densely long pilose, 3.5 mm. long, the third and fourth segments each about one-half the length of basal; pronotum a little wider than long with a distinct lateral tubercle before the transverse impression; anterior angles obliquely truncate with a short subacute spine outwardly; humeral angles acute; posterior tibia with a little longer and denser pile than in *apiculatus*. Length 14–15 mm.

Distinguishable from *apiculatus* by its slightly more robust form; wider spacing between the eyes below; relatively longer first and second segments of the antenna.

Distribution: Texas (Stål); Lakehurst, N. J., and St. Petersburg, Fla. (Coll. J. R. T.-B.); Plummers Is., Md. (U. S. N. M.); Knoxville, Tenn., Douglas and McPherson Cos., Kans. (My coll.).

*Oncocephalus apiculatus* Reuter

Male: Very closely related to the preceding but somewhat more slender. The eyes are set closer together below, the space between not more than half as wide as the diameter of the second rostral segment at the middle; the first two segments of the antenna are relatively shorter, the basal about one mm. long, the second nearly 3 mm. Length 13 mm.

Distribution: Brownsville, Tex. (Coll. of J. R. T.-B. and author).

*Oncocephalus nubilus* Van Duzee

Male: This is a robust pale species from the S. W. part of the United States readily distinguished by the absence of the usual fuscous patches in the discal cell of the corium and membrane; pilosity of the basal segment of the antenna as well as its greater length; absence of lateral tubercle of the pronotum as well as the less acute humeral angles; more spines on the anterior femora (10-11); longer pile on the posterior tibia within, nearly glabrous outwardly; the eyes below almost as far apart as the diameter of the second rostral segment at the middle and provided posteriorly with a distinct seta on each side. Length 17-18 mm.

Distribution: Cochise Co., Ariz. (Van Duzee); Douglas, Ariz., Jemez Springs, N. Mex., Brownsville, Tex., Hamilton Co., Kans.; Monterey, N. Mex. (J. R. T.-B.); Phoenix, Welton, Paloma, Ariz.; Deming, N. Mex.; Brownsville, Tex. (Author's coll.); Gomez Palacio, and Tlahualilo, Mex. (U. S. N. M.).

*Oncocephalus erectus* Van Duzee

Male: This species is also without the usual fuscous patches in the discal cell of corium and membrane, but it is smaller and more heavily infuscated than the preceding. It has a short head with the eyes below nearly in contact; basal segment of antenna as long as head, only about one-half as long as second, densely long pilose, the pile of second being four or five times as long as diameter of antenna; the pronotum is much longer than wide; anterior angles rounded, posterior angles acute; lateral margins without a tubercle before the sinus; anterior femora with 8-9 spinules; connexivum reddish. Length 14 mm.

Distribution: Angeles Bay, Lower Calif. (E. P. Van Duzee); Purissima, Lower Calif. (U. S. N. M.).

*Oncocephalus validispinis* Reuter

Male: A rather slender species heavily infuscated between the longitudinal pale striae of the pronotum. Pre-ocular margin to apex of antenniferous tubercles nearly twice as long as post-ocular margin, the latter rounded; basal segment of antenna glabrous, sordid testaceous, paler at base, but little more than twice as long as pre-ocular margin; second segment just a little over twice as long as basal, densely short pilose; pile a little longer than diameter of segment; third a little shorter than second segment; these united equal to basal; space between the eyes below somewhat narrower than the diameter of the second segment of rostrum at the middle point; pronotum decidedly wider than long; lateral margin before the transverse impression provided with a distinct tubercle; anterior angles with a distinct acute spine outwardly; posterior angles armed with acute somewhat reflexed spine; posterior lobe with eight longitudinal fuscous stripes, without elevated ridges; scutellum fuscous, with a medium pale stripe at least posteriorly; corium suffused with fuscous between the elevated pale veins; discal cell provided with a large black spot; inner apical margin of the membrane sinuate, its apex obtusely rounded; outer cell provided with a broad elongate black fascia, sinuate before and acutely tapering behind; connexival segments of the abdomen infuscated at their apical angles; sixth abdominal segment posteriorly ending in two broadly rounded lobes extending slightly beyond the almost truncated median lobe; the posterior margin of the latter almost two-thirds as wide as the lateral lobes; anterior femora heavily infuscated below and provided with 10-11 small spinules, anterior tibia with three fuscous rings; intermediate and posterior femora widely embrowned at apex; posterior tibia with base and apex very narrowly infuscated, densely setose, the setae nearly twice as long as the diameter of the tibia. Length 12-13 mm.

In the female the second antennal segment has extremely short setae, much shorter than diameter of segment; the connexivum heavily infuscated; setae of the posterior tibia shorter, no longer than diameter of the tibia; apex of membrane narrowly rounded; apex of abdomen acutely attenuated. Length 16-17 mm.



Distribution: Bahia, Brazil (Reuter); Igarapé Assú, Brazil, and Bartica, Br. Guiana (J. R. T.-B.); Georgetown, Br. Guiana, and Rurrenabaque, Beni, Bolivia (U. S. N. M.); Moengo, Boven Cottica R., Surinam; Tumatumari, Potaro R., and Mackenzie, Demerara R., Br. Guinea (M. C. Z.); Tumatumari, Br. Guiana (A. M. N. H.); Coroico, Bolivia, and Iquitos, Peru (Author's coll.); Rio Janeiro, Santarem, and Hyutanahan, Brazil; Upper Mazaruni R., Br. Guiana; Puerto Suarez and Prov. del Sara, Bolivia (Carnegie Mus.).

*Oncocephalus antipodus* Reuter

Male: A little more robust than *validispinis* with the pronotum more heavily infuscated and the pale striae more indistinct or usually less plainly indicated. Pre-ocular margins of head twice as long as the post-ocular margins, the latter nearly parallel to each other; basal segment of antennae very sparsely shortly setose inwardly; pale at base: nearly one-third longer than the pre-ocular margin; second segment much over twice as long as basal, rather densely pilose, pile nearly twice as long as diameter of the segment; space between the eyes below nearly as wide as the diameter of the second segment of the rostrum at middle point; pronotum very nearly as wide as long; lateral margin before the transverse impression with a distinct tubercle; anterior angles obliquely truncate, scarcely armed; posterior angles acute, reflexed; posterior lobe more strongly infuscated with the paler striae less evident than in *validispinis*; scutellum fuscous with the apex pale; corium not infuscated between the veins, concolorous; discal cell of the corium and outer cell of the membrane furnished with a fuscous spot similar to those in *validispinis*; each segment of the connexivum furnished with two fuscous spots, one near the middle and the other at apex; the sinus at the end of the sixth segment narrower than *validispinis*; anterior femora armed with 8-9 spinules between each two of which is a very minute setigerous spinule; anterior tibia with three fuscous rings; intermediate and posterior femora frequently with a median as well as an apical fuscous band; posterior tibia with basal, apical and obscure prebasal bands, densely setose, the setae a little longer than the diameter of the tibia; apex of membrane broadly rounded, not at all sinuated before this. Length 14-15 mm.

Female: The connexivum infuscated with a pale spot behind the middle and at the apex of each segment; abdomen posteriorly not so attenuated as in *validispinis*.

Distribution: Ecuador (Reuter); Tabernilla, Canal Zone, Panama and Posorja, Ecuador (U. S. N. M.); Guayaquil, Ecuador (Cornell); Puertó Suarez, Bolivia (Acc. No. 3845 Carnegie Mus.).

## KEY TO SPECIES OF ONCOCEPHALUS

1. Pronotum without a lateral tubercle; discal cell of corium and outer cell of the membrane devoid of black patches; basal segment of antenna of male pilose .....2  
 Pronotum provided with a lateral tubercle; discal cell of corium and outer cell of membrane with black patches .....3
2. Head, pronotum and hemielytra except laterally, black; second segment of antenna about twice as long as basal one; eyes almost in contact below; pronotum much wider than long, strongly transversely impressed near the middle.  
*erectus* Van D.  
 Head, pronotum and hemielytra smudged with fuscous through the middle; second segment of the antenna about one-third longer than basal one; eyes below about as far apart as the diameter of the second rostral segment at middle point; pronotum about as wide as long, weakly impressed dorsally; anterior and posterior angles not spinose .....*nubilus* Van D.
3. Post-ocular part of head nearly parallel sided; basal segment of antenna five-twelfths longer than pre-ocular margin; second segment a little over twice as long as basal one; pronotum almost as wide as long, rather deeply transversely impressed behind the middle; anterior angles truncate, not spinose; anterior femora armed with about eight small spines between which are one or two minute setigerous spinules; posterior femora with wide apical and preapical fuscous bands; posterior tibia rather densely setose, setae towards apex twice as long as diameter of tibia .....*antipodus* Reut.  
 Post-ocular part of head contracted or rounded; pronotum more evidently wider than long, less strongly impressed; anterior angles spinose .....4
4. Body more slender; pronotum with distinct, definite, continuous, pale stripes; posterior femora with only the apex infuscated; posterior tibia with base and apex very narrowly infuscated; basal segment of antenna about one-half as long as second; anterior femora with 10-11 small spines with a minute setigerous spinule between these .....*validispinis* Reut.  
 Body less slender; pronotum infuscated but without regular longitudinal, continuous pale stripes; posterior femora with broad apical and preapical fuscous bands; posterior tibia with narrow basal, prebasal and apical fuscous bands; second

segment of the antenna much over twice as long as basal one;  
anterior femora with 9-10 small spines .....5

5. Second segment of antenna about two and one-half times longer than basal one, the latter over twice as long as the pre-ocular margin to apex of antenniferous tubercles; posterior tibia densely long pilose, pile  $1\frac{1}{2}$ -2 times as long as diameter of the tibia. Grayish cinereous .....*geniculatus* Stål

Second segment of the antenna nearly three times as long as the basal one; the later two-fifths longer than the pre-ocular margin of head; posterior tibia densely short pilose, pile not much longer than the diameter of the tibia. Color more stramineous .....*apiculatus* Reut.

### *Zylobus* n. gen.

Head longer than pronotum; pre-ocular much longer and more slender than post-ocular portion; the lateral margins of the latter gradually converging posteriorly, armed below with a prominent ramose spine; eyes very strongly projecting, transverse, pilose; ocelli large, strongly elevated; antenniferous tubercles armed externally with a small setigerous spine; the anterior processes (jugae) short with tylus produced between them; basal segment of antenna slightly incrassate, shorter than pre-ocular part of head; second segment much longer; third and fourth segments short; rostrum moderately incrassate, with basal segment much shorter than second and third together, but longer than second; genae not anteriorly produced in a spine. Pronotum including humeral spines wider than long; lateral margins and disk of anterior lobe provided with conspicuous setigerous tubercles; rather strongly constricted just before the middle; anterior margin depressed; anterior angles truncate with a small spine externally; posterior lobe furnished with two distinct longitudinal ridges; humeral angles acutely spinose; all of the femora rather slender, tuberculate, the anterior pair scarcely incrassate; anterior tibia a little longer than femur, without a spongy fossa at apex; intermediate femur a little longer than anterior one; posterior femora not extending to apex of abdomen. Prosternal spines very short. Scutellum but little longer than wide, armed with a stout spine at apex. Hemielytra provided in the center with two discal cells a supernumerary cell anterior to the normal apical cell; rounded apex of membrane very nearly reaching apex of abdomen. Connexival margins of abdomen somewhat expanded, with a prominent triangular subacute lobe at the posterior angles of segments one to six. Venter longitudinally carinate in the middle.

This genus not related to any of Stål's genera of Stenopodinae seems to be most closely related to *Oerioëssa* Bergroth. Distinct peculiarities of the genus are the slender anterior femora and the presence of two discal cells in the corium. Type **lobulatus** n. sp.

**Z. lobulatus** n. sp.

Color brownish-cinereous; head, anterior lobe of pronotum in great part, fuscous; basal segment of antenna, basal segment of rostrum, femora and tibiae heavily mottled with fuscous; hemielytra somewhat mottled and the connexival segments banded with fuscous. Sternum and venter ferrugineous, the latter with some pale yellow spots laterally. Head granulose, one-sixth longer than pronotum, nearly twice as long as width across eyes, which are strongly bulging, a little wider than the interocular space; the pre-ocular portion one-third longer than the post-ocular, which is gradually contracted posteriorly to beginning of the collum with margins finely tuberculate; central disk dorsally before eyes with a tubercle-like elevation armed with small setigerous tubercles; ocelli large, somewhat elevated, almost as far apart as they are remote from eyes; pre-ocular margins to base of antenna parallel, as long as eyes; antenniferous tubercles armed externally with a small setigerous spine; two anterior processes (jugae) short, widely divaricate, tylus visible between these; ventro-laterally behind eyes armed with a single large biramosé spine. Basal segment of antenna not much incrassate, sparsely setose, gently curved, nearly twice as long as pre-ocular margin to base of antenna; second segment much more profusely pilose, three-fifths longer than basal; third and fourth segments slender, nearly equal in length. Rostrum not strongly incrassate, remote from head; basal segment straight, a little longer than second which in turn is a little longer than third; second and third gradually becoming more slender to a very acute apex. Pronotum across humeral spines almost one-third wider than long, lateral margins with a row of conspicuous bulbous setigerous tubercles; laterally and transversely constricted just before the middle; the anterior angles broadly truncate, armed externally with a short, oblique spine; disk of anterior lobe on either side of the longitudinal groove provided with several setigerous tubercles; surface between these smooth; posterior lobe distinctly granulate; with a distinctly elevated longitudinal ridge on either side of the middle, diverging posteriorly; humeral angles provided with an



acute somewhat reflexed spine. Propleura somewhat inflated, with very short porrect prosternal spines. Anterior coxal cavities placed some distance behind anterior margin of prosternum; legs setose; anterior trochanters unarmed; anterior femora scarcely at all incrassate, sparsely covered above and below with short rounded setose spines and with appressed scale like hairs; anterior tibia a little longer than femur, setose, without spongy fossa at apex; tarsi of three segments with the first and second together nearly as long as third; intermediate femur and tibia a little longer than anterior ones, the former with similar spines as the other femora; apex of posterior femora reaching beyond apex of fourth abdominal segment. Scutellum strongly elevated above the surface of the hemielytra and armed with a short, stout, erect, spine at apex. Hemielytra with anterior lateral margins finely spinose; with two discal cells, the anterior one opposite the apex of the clavus is triangular in shape, followed by a slightly larger six-angled cell. Membrane rounded at apex, with a black fascia in the outer cell near the outer vein. Connexival margins of abdomen strongly expanded beyond the margins of the hemielytra, each posterior lateral angles of the segments extended in a prominent triangular subacute lobe, margins between these with one or two small blunt spines; posterior margin of the sixth segment broadly rounded between the two posterior lateral lobes. Venter with segment 1-5 strongly carinate in the center; surface on either side of this with several series of small pale tubercles. Length of male 16 mm.

Type: Male; Cabima, Panama, May 28, 1911; coll. by Aug. Busck (U. S. N. M.). Paratypes: Males, Cabima, Panama, May 21, 1911; Salidero, Ecuador (U. S. N. M.).

Genus *Oerioëssa* Bergroth

(Type *lobuliventris* Bergroth)

Ann. Mus. Nat. Hung. XVI, 312, 1918.

Head shorter than pronotum. Eyes strongly projecting, shortly setose; pre-ocular part of head narrower and longer than post-ocular; between antenniferous tubercles armed with two anteriorly inclined processes (jugae); ocelli strongly elevated; behind eyes ventro-laterally armed with two or three simple setigerous spines; gular region with two or three pairs of setigerous spines; genae produced anteriorly in short acute processes. Basal segment of antenna

much longer than the pre-ocular margin to apex of antenniferous tubercles; second segment much longer than basal; third and fourth capillaceous. Basal segment of rostrum not extending posteriorly as far as anterior margin of eyes, subequal to second segment. Pronotum longer than wide; strongly transversely constricted near the middle; anterior angles armed with acute oblique spines; humeral angles armed with long, reflexed spines; central disk of anterior lobe armed with two erect spines or tubercles; lateral margins a little before the constriction armed with a semi-erect spine or tubercle; pronotal spines long and acute; posterior margin before scutellum concavely arcuate. Apex of scutellum armed with a long erect spine; post-scutellum with a small spine. Corium with two discal cells; anterior one triangular; posterior one six angled. Membrane about reaching to apex of abdomen; apex somewhat acuminate. Connexival margins somewhat expanded; apical angles of segments 1 to 5 ending in triangular reflexed lobes; apical angles of sixth segment ending in two acute posteriorly directed lobes. Venter longitudinally carinate through segments 1 to 5. Legs long. Anterior femora rather strongly incrassate, armed below with numerous irregularly arranged spines; anterior trochanters armed with spines; anterior tibia as long as femur, lightly curved, furnished with a short spongy fossa at apex (Bergroth in error); intermediate femora and tibia much longer than anterior ones; posterior femora and tibiae much longer than intermediate; apex of femur reaching at least to apex of abdomen.

*Oerioëssa lobuliventris* Bergroth

Head testaceous variegated with fuscous; pronotum ochraceous with a median longitudinal fuscous stripe gradually widening posteriorly and broader lateral stripes somewhat broken and irregular on the anterior lobe; scutellum fuscous with lateral carinae and spine ochraceous; clavus ochraceous with a fuscous streak, wide in front, acuminate posteriorly, extending beyond apex of scutellum; membranous areas of corium more or less infuscated, with the longitudinal veins conspicuously pale, sometimes mottled with fuscous. Membrane ochraceous mottled with fuscous, an elongate fuscous stripe in the outer cell and often with a sordid white stripe in each cell. Connexivum and venter ochraceous much variegated with fuscous. Legs testaceous variegated with fuscous. Head seen from above not quite twice as long as wide and a little shorter than pronotum;

eyes strongly projecting, seen from above, not transverse; pre-ocular but a trifle longer than post-ocular margin; the former nearly parallel sided, the latter evenly rounded from eyes to collum and armed below with two or three small setigerous spines; setigerous spines of antenniferous tubercles minute; inter-ocular space above considerably wider than an eye; diameter of gular space a little wider than base of second rostral segment; this space before and between eyes with a pair of setigerous spines; anterior processes (jugae) united at base, lightly divergent apically and inclined anteriorly; strongly elevated ocelli set a trifle closer together than their distance from the eyes; genae anteriorly produced in a spine. Basal segment of antenna pale, infuscated at base and apex, nearly four times as long as pre-ocular margin of head and profusely pilose below; second segment pale with base, apex and middle region fuscous, one-third longer than first and profusely pilose; fourth segment but little longer than third. Rostrum pale with apices of first and second and all of third segment fuscous. Pronotum is one-sixth longer than wide (excluding humeral spines); a pronounced transverse dorsal stricture just behind the middle; oblique spines of the anterior angles quite long and acute; two long erect spines in central disk of anterior lobe; lateral spine a little before the stricture somewhat shorter; anterior face of posterior lobe strongly declivous and furnished with two median carinae lightly diverging posteriorly; humeral angles armed with long nearly erect spines. Scutellum with lateral margins calloused, a long erect spine at apex; spine of post-scutellum small. Connexivum expanded; each apical angle of segments 1 to 5 ending in acute triangular lobes; posterior angles of sixth segment drawn out into two acute triangular lobes with a wide shallow sinus between these. Anterior trochanters armed with several prominent spines; incrassate fore femora with numerous small variably sized irregularly arranged spines; anterior tibia lightly curved; apical spongy fossa much shorter than tarsus; intermediate and posterior legs long and slender. Length, male 17.6 mm.

Distribution: French Guiana (Bergroth); Capero, Trinidad (U. S. N. M.).

**Ocrioëssa boliviensis** n. sp.

Very similar in appearance and markings as the preceding species. It differs in the following respects: diameter

of the gula much wider, being about twice as wide as the diameter of base of second rostral segment and over one-half the diameter of an eye; the setose spines of that region being smaller and more numerous; anterior gular spines less acute; entire head is more roughly granulose; the antennae are shorter and not long pilose; basal segment of antenna about twice as long as the pre-ocular margin; second segment not twice as long as basal; third and fourth segments subequal; transverse stricture of pronotum across the middle, the ridges of the anterior lobe more granular; anterior face of posterior lobe less declivous; the carinae more evident and wider apart; discal spines of anterior lobe are situated before the middle and reduced to tubercles; lateral spines before the stricture are also reduced to tubercles, scarcely evident; the humeral angles are not slenderly spinose but drawn out into acuminate somewhat reflexed processes; spines of the fore femora are smaller and fewer, regularly arranged in a single row; apices of posterior femora do not surpass apex of abdomen. Length male 16 mm.

Type: Male, Prov. del Sara, Bolivia, Nov. 1913 (Acc. No. 5068 Carnegie Mus.). Paratype: Male, St. Cruz de la Sierra, Bolivia (450 M.), Nov. 1910 (Acc. No. 4550 Carnegie Mus.). Both collected by Steinbach.

#### GENERA AND SPECIES OF STENOPODINAE

(Genera and species not seen by me marked by \*)

<i>Pnirontis</i> Stål.	<i>grisea</i> n. sp.
<i>subinermis</i> n. sp.	<i>incerta</i> Reuter.
<i>languida</i> Stål.	<i>edentula</i> Berg.
<i>acuminata</i> n. sp.	<i>infirma</i> Stål.
<i>inobtrusa</i> n. sp.	<i>scutellaris</i> Stål.
<i>brevispina</i> n. sp.	<i>pallescens</i> Stål.*
<i>brimleyi</i> Blatchley.	<i>stali</i> Mayr.*
<i>scorpionia</i> Berg.	<i>spinimana</i> Champ.*
<i>selecta</i> n. sp.	<i>filiformis</i> Walker.*
<i>similis</i> n. sp.	<i>Rutuba</i> Bueno.
<i>granulosa</i> n. sp.	<i>perpugnax</i> Bueno.
<i>serripes</i> Fab.	<i>Pygolampis</i> Germar.
<i>modesta</i> Banks.	<i>pectoralis</i> Say.
<i>tabida</i> Stål.	<i>spurea</i> Stål.
<i>elongata</i> n. sp.	<i>atrolineata</i> n. sp.



Gnathobleda Stål.  
 litigiosa Stål.  
 fraudulenta Stål.  
 Pnohirmus Stål.  
 violentus Stål.  
 spinifer Stål.  
 whymperi Distant.\*  
 Ctenotrachelus Stål.  
 macilentus Stål.  
 shermani n. sp.  
 mexicanus Champion.  
 minor n. sp.  
 testaceus n. sp.  
 elongatus n. sp.  
 lobatus n. sp.  
 infuscatus n. sp.  
 setulosus n. sp.  
 striatus n. sp.  
 acutus n. sp.  
 longicollis Walker.\*  
 Seridentus Osborn.  
 denticulatus Osborn.  
 consimilis n. sp.  
 Achilles Bueno.  
 bicaudatus Bueno.  
 Stenopoda Laporte.  
 cinerea Laporte.  
 cana Stål.  
 scutellata Distant.\*  
 Stenopodessa n. gen.  
 piligera n. sp.  
 Apronius Stål.  
 rapax Stål.  
 flavidus n. sp.  
 octonotatus Champion.

Kodormus n. gen.  
 bruneosus n. sp.  
 Rhyparoclopius Stål.  
 annulirostris Stål.\*  
 dessiccatus Am. et Serv.\*  
 dubius n. sp.  
 Nitornus Stål.\*  
 lobulatus Stål.\*  
 fuliginosus Distant.\*  
 Podormus Stål.  
 granulatus Stål.\*  
 Diaditus Stål.  
 pictipes Champion.  
 hirticornis Champion.  
 semicolon Stål.  
 pilosicornis Bergroth.  
 annulipes Berg.  
 latulus n. sp.  
 Narvesus Stål.  
 carolinensis Stål.  
 minor n. sp.  
 Oneocephalus Klug.  
 geniculatus Stål.  
 apiculatus Reuter.  
 nubilus Van Duzee.  
 erectus Van Duzee.  
 validispinis Reuter.  
 antipodus Reuter.  
 Zylobus n. gen.  
 lobulatus n. sp.  
 Oerioëssa Bergroth.  
 lobuliventris Bergroth.  
 boliviensis n. sp.  
 ? Stenopoda hyalinipennis  
 Walker. (Unplaced.)

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